NPL Search

```
Set     Items   Description
S1       1496   DATAPACKET? OR BINARY()STRING? OR PACKET? OR DATAGRAM? OR -
            DATA()(BUNDLE? OR BLOCK?)
S2       7632   IDENTIF? OR CLASSIF? OR INDEX? OR SORT OR SORTING OR SORTED
             OR SORTER OR DEMULTIPLEX?
S3       5416   TREE OR DIRECTORY OR DIRECTORIES OR TREES OR DECISIONTREE?
            OR BTREE
S4       8862   CRITERIA? OR RULE? OR FACTOR? OR FILTER?
S5      13135   LEVEL? OR TIER? OR BRANCH? OR CHILD? OR NODE? OR LEAF?
S6       8378   EXTERNAL()INFORMATION? OR ORIGINAT? OR SOURCE? OR HEADER? -
            OR DATA()(TYPE? OR FORMAT?)
S7          3   S1(S)S2(S)S3(S)S4
S8          1   S1(S)S2(S)S3(S)S6
S9          6   S1(S)S2(S)S5(S)S6
S10         9   S7 OR S8 OR S9
S11         7   S10 NOT PY>2000
S12         7   S11 NOT PD>20000413
File 256:SoftBase:Reviews,Companies&Prods. 82-2003/May
         (c)2003 Info.Sources Inc
```

12/3,K/1
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

01734501 DOCUMENT TYPE: Product

PRODUCT NAME: Optivity Policy Services 3.0 (734501)

Nortel Networks Corp (667765)
8200 Dixie Rd #100
Brampton, ON L6T 5P6 Canada
TELEPHONE: (905) 863-0000

RECORD TYPE: Directory

CONTACT: Sales Department

REVISION DATE: 20030413

...security system that supports enterprise networks. Optivity Policy Services 3.0 provides IT personnel with **packet classification , filter** preview, notification, and other features. The system includes deep- **packet filtering** controls. It also lets users employ multiple traffic condition attributes when configuring policies. Analysis features...
...Policy Services supports DiffServ, LDAP, and other management standards. The system includes an integrated iPlanet **directory** . Scheduling controls automate the upgrading and downgrading of service levels. Application templates speed policy development...

12/3,K/2
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

01720879 DOCUMENT TYPE: Product

PRODUCT NAME: NetScout Manager Plus (720879)

NetScout Systems Inc (521051)
310 Littleton Rd
Westford, MA 01886 United States
TELEPHONE: (978) 614-4000

RECORD TYPE: Directory

CONTACT: Sales Department

REVISION DATE: 20000630

...LANs, VLANs, and switched LANs. Managers see traffic at the data link, network, and application **levels** . They can determine who is running applications, when peak usage occurs, **identify** problem and rogue software, and view bandwidth availability. NetScout Manager can trace an application's...
...network or compare individual or groups of applications. Troubleshooting options include drill-down to the **source** of a problem or to all network conversations, **packet** capture and decoding, export to Network Associates' Sniffer file format, and two-probe/two- **packet** capture. NetScout Manager supports most monitoring standards, including SMON and RMON. Other features of the...

12/3,K/3
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

00123626 DOCUMENT TYPE: Review

PRODUCT NAMES: MPLS (839728)

TITLE: Label switching aids scalability, QoS
AUTHOR: Giacalone, Spencer
SOURCE: Network World, v17 n10 p45(1) Mar 6, 2000
ISSN: 0887-7661
HOMEPAGE: http://www.nwfusion.com

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

REVISION DATE: 20010730

...to be offered. With MPLS, information is forwarded through networks by distributing and exploiting short **identification** markings known as labels in **packets** . Use of labels allows MPLS to forward traffic without looking at the **packet** IP **header** except when the **packet** is entering or leaving MPLS. MPLS-enabled devices are called MPLS **nodes** or Label Switch Routers (LSRs) and process labels at Layer 2. Therefore, less speedy network...

...In some situations, the MPLS label can be directly integrated with other Layer 2 protocol **headers** . MPLS **nodes** can find integrated labels faster than IP data or conventional MPLS labels, an ability that can result in better performance. When a **packet** arrives on an MPLS **node** , its label is compared to a database called the label information base (LIB), which adds a label to a **packet** , or alters/removes the existing label. The outgoing interface to which the data will be sent is determined, then the MPLS **node** forwards the **packet** to its destination. The LIB can ease forwarding and enhance scalability by linking many incoming...

12/3,K/4
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

00115041 DOCUMENT TYPE: Review

PRODUCT NAMES: RealSecure 2.0 (665703)

TITLE: RealSecure 2.0
AUTHOR: Staff
SOURCE: SC Infosecurity News Magazine, v10 n1 p28(1) Jan 1999
ISSN: 1096-7974
HOMEPAGE: http://www.infosecnews.com

RECORD TYPE: Review
REVIEW TYPE: Review
GRADE: A

REVISION DATE: 20021024

...portfolio, an integrated line of network security assessment and monitoring tools. RealSecure is essentially a **packet** sniffer, but with added features that set it apart from the competition. It sits on...

...and analyzes the traffic that flows by, trying to find specific groups or patterns of **packets** that **identify** an attack or network abuse. If a policy violation is detected, RealSecure can respond by recording the time, date, **source** , and target of the event, recording the content of the event, notifying administrators, reconfiguring the...

...are two parts to RealSecure, the engine and the console. The engine is the low **level** software that actually gathers **packets** , looks for attacks, and generates the response. One engine is required for each subnet being...

12/3,K/5
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

00114289 DOCUMENT TYPE: Review

PRODUCT NAMES: Bandwidth Optimizer 2.0 (728021)

TITLE: Ending Net Bottlenecks: Elron Bandwidth Optimizer v2.0...
AUTHOR: Lipshutz, Robert P
SOURCE: PC Magazine, v18 n5 p77(1) Mar 9, 1999
ISSN: 0888-8509
HOMEPAGE: http://www.pcmag.com

RECORD TYPE: Review
REVIEW TYPE: Review
GRADE: A

REVISION DATE: 20020730

...set priorities and control traffic moving in and out of the network. Bandwidth Optimizer collects **packets** traveling to and from the Internet and generates reports and charts based on what it...

...Administrators can then design a bandwidth-management policy that includes a set of prioritized bandwidth **rules** and that can form and control network traffic patterns. No integration with such databases as Novell **Directory** Services (NDS) or a Windows NT domain is provided, and users are **identified** for monitoring only by their IP addresses. Networks using Dynamic Host Control Protocol will require...

12/3,K/6
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

00113516 DOCUMENT TYPE: Review

PRODUCT NAMES: Conclave 1.5 (699292)

TITLE: Conclave
AUTHOR: Staff
SOURCE: SC Infosecurity News Magazine, v9 n10 p26(1) Oct 1998
ISSN: 1096-7974
HOMEPAGE: http://www.infosecnews.com

RECORD TYPE: Review
REVIEW TYPE: Review
GRADE: B

REVISION DATE: 20020630

...at the perimeter. The firewall portion of the package offers a combination of kernel-level **packet filters** and application-level virus checking proxies for FTP, NNTP, SMTP, and Real Audio. Any suspicious...

...that PC. Conclave instead implements user-specific X.509 digital certificates, along with encryption to **identify** individuals. This permits secure authentication from any location. Conclave can be administered remotely from any 32-bit Windows client, and the GUI is intuitive, with an Explorer-like **tree** interface.

12/3,K/7
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

00070263 DOCUMENT TYPE: Review

PRODUCT NAMES: Interpreter (531651)

TITLE: RMON: The Enterprise Probe
AUTHOR: Carr, Jim
SOURCE: INTERNETWORK, v5 n10 p24(6) Oct 1994
ISSN: 1055-1808
HOMEPAGE: http://www.internetworkweb.com

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

REVISION DATE: 20020630

...module for its NetMaker XA design platform. Interpreter profiles LAN-WAN traffic based on the **packet** information captured by the RMON probe. Network managers can use Interpreter to determine the mix of traffic and application type, and view it in a graphical topology. Interpreter will also **identify source** and destination traffic, and issue reports on activity **levels** .

```
Set     Items   Description
S1     374933   DATAPACKET? OR BINARY()STRING? OR PACKET? OR DATAGRAM? OR -
             DATA()(BUNDLE? OR BLOCK?)
S2    5266791   IDENTIF? OR CLASSIF? OR INDEX? OR SORT OR SORTING OR SORTED
              OR SORTER OR DEMULTIPLEX?
S3    1120993   TREE OR DIRECTORY OR DIRECTORIES OR TREES OR DECISIONTREE?
             OR BTREE
S4    7302895   CRITERIA? OR RULE? OR FACTOR? OR FILTER?
S5    9916517   LEVEL? OR TIER? OR BRANCH? OR CHILD? OR NODE? OR LEAF?
S6    6497483   EXTERNAL()INFORMATION? OR ORIGINAT? OR SOURCE? OR HEADER? -
             OR DATA()(TYPE? OR FORMAT?)
S7        103   S1(S)S2(S)S3(S)S4
S8         62   S7(S)(S5 OR S6)
S9         61   RD (unique items)
S10        45   S9 NOT PY>2000
S11        30   S10 NOT PD>20000413
File 275:Gale Group Computer DB(TM) 1983-2003/Jun 11
         (c) 2003 The Gale Group
File  47:Gale Group Magazine DB(TM) 1959-2003/Jun 06
         (c) 2003 The Gale group
File 636:Gale Group Newsletter DB(TM) 1987-2003/Jun 09
         (c) 2003 The Gale Group
File  16:Gale Group PROMT(R) 1990-2003/Jun 11
         (c) 2003 The Gale Group
File 624:McGraw-Hill Publications 1985-2003/Jun 10
         (c) 2003 McGraw-Hill Co. Inc
File 484:Periodical Abs Plustext 1986-2003/Jun W2
         (c) 2003 ProQuest
File 613:PR Newswire 1999-2003/Jun 11
         (c) 2003 PR Newswire Association Inc
File 813:PR Newswire 1987-1999/Apr 30
         (c) 1999 PR Newswire Association Inc
File 141:Readers Guide 1983-2003/Apr
         (c) 2003 The HW Wilson Co
File 696:DIALOG Telecom. Newsletters 1995-2003/Jun 10
         (c) 2003 The Dialog Corp.
File 621:Gale Group New Prod.Annou.(R) 1985-2003/Jun 10
         (c) 2003 The Gale Group
File 674:Computer News Fulltext 1989-2003/Jun W2
         (c) 2003 IDG Communications
File 369:New Scientist 1994-2003/Jun W1
         (c) 2003 Reed Business Information Ltd.
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 635:Business Dateline(R) 1985-2003/Jun 11
         (c) 2003 ProQuest Info&Learning
File  15:ABI/Inform(R) 1971-2003/Jun 11
         (c) 2003 ProQuest Info&Learning
File   9:Business & Industry(R) Jul/1994-2003/Jun 10
         (c) 2003 Resp. DB Svcs.
File  13:BAMP 2003/May W4
         (c) 2003 Resp. DB Svcs.
File 810:Business Wire 1986-1999/Feb 28
         (c) 1999 Business Wire
File 610:Business Wire 1999-2003/Jun 11
         (c) 2003 Business Wire.
File 647:CMP  Computer Fulltext 1988-2003/May W3
         (c) 2003 CMP Media, LLC
File 148:Gale Group Trade & Industry DB 1976-2003/Jun 10
         (c)2003 The Gale Group
```

11/3,K/3 (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)

04156993 Supplier Number: 54488168 (USE FORMAT 7 FOR FULLTEXT)
LUCENT TECHNOLOGIES: Lucent Technologies announces RealNet Rules policy management application.
M2 Presswire, pNA
April 26, 1999
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 1114

... the network in order to insure the active policies are being executed and enforced. RealNet **Rules** also reduces complexity by providing an intuitive graphical user interface. It allows network managers to implement easy-to-understand and high- **level** network **rules** , translates these **rules** into detailed configurations and applies them to the network in support of their business needs. Policies are stored in a **directory** and can be accessed via LDAP-enabled devices and applications. In its initial release, RealNet **Rules** will support Lucent's Cajun' P550' Gigabit Switch and Cajun M770' Multifunction Switch, plus legacy Cisco routers. The Cajun Switches provide unparalleled capabilities, such as an LDAP client, **packet** -by- **packet** **classification** and priority queuing and **filtering** decisions at wire-speed, that support a robust policy-based infrastructure - regardless of the amount of **rules** configured. RealNet **Rules** also utilises a proxy engine that translates standards-based schema stored in a **directory** into a command-based file that can be understood by non-LDAP-capable devices, including...

11/3,K/7 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

06663974 Supplier Number: 55876199 (USE FORMAT 7 FOR FULLTEXT)
NEW MEDIA; Policing networks - private and public. (Firewall/QoS Manager by Xedia) (Product Announcement)
Telephony, pNA
Sept 20, 1999
Language: English Record Type: Fulltext
Article Type: Product Announcement
Document Type: Magazine/Journal; Trade
Word Count: 914

... policies at the same time from that central station.

Firewall/QoS Manager includes full stateful **packet filtering** , which lets a user create access **rules** and privileges on any interface based on class-based queuing (CBQ) **classification** of traffic. It then performs access control based on that definition of traffic. CBQ imposes a **tree** -like structure, and Firewall/QoS Manager permits a different firewall at each **branch** of that **tree** so that multiple firewalls can be imposed on a single bandwidth.

"The interesting thing here...

11/3,K/8 (Item 1 from file: 696)
DIALOG(R)File 696:DIALOG Telecom. Newsletters

00707728

WASHINGTON IETF WORKS ON REAL-TIME MULTICAST TRANSPORT

COMMUNICATIONS STANDARDS NEWS
December 20, 1999 DOCUMENT TYPE: NEWSLETTER
PUBLISHER: PHILLIPS BUSINESS INFORMATION
LANGUAGE: ENGLISH WORD COUNT: 1513 RECORD TYPE: FULLTEXT

TEXT:
...or
Core Protocols but possibly as Protocol Instantiations - see the definitions below.

RMT Basic Requirements **Identified**

The key to the RMT activities in the IETF is RFC 2357, which already **identifies** the need for several different protocols to match the wide range of requirements for Real...

...In summary, these are:
* Ordering guarantees: each protocol must offer at least one of either **source** ordered or unordered delivery guarantees;
* Receiver scalability: each protocol should be able to support a...not APIs) for use by other BBs or PIs. In general they will not use **headers** and they will not specify the packing of protocol fields (number of bits, code points...

...Router assist
Building block, described below, is not subject to this constraint.

Four Protocol Families **Identified**

The taxonomy breaks proposed protocols into four protocol families. No new families will be allowed unless a need is clearly demonstrated. Some protocols in the family provide **packet** **level** delivery confirmation that may be useful to the transport **level** . All protocols in all families can be supplemented with higher **level** protocols that provide delivery confirmation of application data units. The four protocol ...NAK Only Reliable Multicast (NORM): protocols, which limit
traffic by only using NACKs for requesting **packet** retransmission. They do not require network infrastructure.
* **Tree** based ACK (TRACK): protocols, which use positive acknowledgments (ACKs). ACK based protocols reduce the need...

...soon as an I-D.
Basically, each PI should contain the APIs for Application developers, **identify** any Application Layer Framing/Non ALF issues, Data Naming issues and whether or not the...

...transport that
optimises the flow of multicast traffic through routers. It features a multicast distribution **tree** and a **filter** model. The **filter** minimises router traffic by eliminating superfluous messages and responses. The model recognises several types of **filtering** based on recognising the associated transaction, the transmission session ID, optional keys (e.g. sequence numbers) and optional **packet** variables (e.g. **packet** count). It does not contain **packet** buffering and needs explicit neighbour information.

NAK Only Family Seems Most Advanced

A short presentation...

...were:
* Good scalability;
* Building blocks are compatible with other RMT BBs;
* Bulk service model;
* Minimum **level** is flat multicast connectivity;
* Minimum pre-co-ordination amongst group participants;
* Takes advantage of NAKData stream services.

Tree Based ACK Family at the Strawman Stage

A short presentation was given on the TRACK...

...which were highlighted in the presentation, were:
* Reserved many to many multicast addressing;
* Unordered or **source** ordered transmission;
* Time bounded QoS;
* Auto receiver configuration.

Open Loop Family (ALC) Also Needs more...

...features, which were
highlighted in the presentation, were:
* No ACKs or NAKs to congest routes;
* **Packets** only go to connected servers;
* Reliable multicast transfer;
* File Transfer Clients can join when they...

11/3,K/25 (Item 16 from file: 674)
DIALOG(R)File 674:Computer News Fulltext

068208
Say what?
Byline: Eric Hindin
Journal: Network World Page Number: 37
Publication Date: August 17, 1998
Word Count: 2304 Line Count: 223

Text:
... differentiated loss priorities for managing congestion as well as traffic policing and shaping. The fast **packet** memory embedded in the switching fabric is allocated dynamically on a per-queue (flow) basis...

... and configurable queue scheduling weights, ensures that time-sensitive traffic is handled properly with no **packet** loss." OK, got that? If so, you can stop here. If not, keep reading for...

... characterized as implicit or explicit. With implicit QoS, a router or switch automatically allocates service **levels** based on administrator-specified **criteria** , such as the type of application, protocol or **source** address. Every incoming **packet** is examined or **filtered** to see if it meets the specified **criteria** . Just about all routers support implicit QoS. Several switches also are designed to provide implicit...

... prioritization capabilities. For example, the switches can prioritize based on type of virtual LAN and **source** or destination address rather than higher **level** information such as application or protocol type. Emerging policy-based network systems will bring more...

... to these switches. Explicit QoS, in contrast, lets the user or application request a particular **level** of service, and switches and routers attempt to meet the request. IP Precedence, also called...

...Part of the IP Version 4 protocol, IP TOS reserves a field in the IP **packet** where delay, throughput and reliability service attributes can be specified. The latest version of Winsock...

... end users are likely to configure their software to ask for the best possible service **level** . Administrators would probably need to establish **rules** for users and perhaps even configure QoS on a per-user ...areas of memory within a router or switch, are set up to contain different priority **packets** . A queuing algorithm determines the order in which **packets** stored in the queues are transmitted. The idea is to give better service to high-priority traffic while ensuring, to varying degrees, that low-priority **packets** get some service. The graphic on page 37 shows basic implicit and explicit QoS systems...

... queues are serviced on a round-robin basis. The algorithm specifies the transmission of two **packets** from Queue 1 (the high-priority queue) for every one **packet** transmitted from Queues 2 and 3. Same-priority **packets** are transmitted from within each queue on a first in, first out (FIFO) basis. If...

...data will reach its destination in a timely manner; it only ensures that high-priority **packets** will get there before low-priority **packets** . More sophisticated QoS systems solve this problem with bandwidth reservation systems, which assign prespecified amounts...

... low-priority queues to service high-priority traffic, and vice-versa.Basic queuing algorithms transmit **packets** from the same queue in a FIFO order. Large frames associated with a high-priority...

... transfer may delay a transaction processing application that passes small amounts of data, even though **packets** from both applications are

classified as high priority. More sophisticated queuing algorithms attempt to be fairer. For example, Cisco's...

...greater fairness. For example, administrators could establish a queue to give preference to high-priority **packets** that need to travel to a far-flung destination.Per-flow queuing establishes queues on...

... allows end stations to throttle their transmission rates and slow traffic if the network drops **packets** . TCP/IP and SNA have supported congestion control for many years. By itself, congestion control...

... RED) has emerged as the standard congestion avoidance method. In basic form, RED randomly drops **packets** as queues fill up, causing end stations to decrease their transmission rates so queues won't overflow. Weighted RED (WRED) improves on RED by dropping **packets** based on IP TOS. Cisco's 7000 and 12000 series backbone routers and Bay's Backbone **Node** routers support RED and WRED, as will forthcoming ISP-class gigabit and terabit routers from...

... Avici Systems, Inc., Juniper Networks, Inc., NetCore Systems, Inc. and Nexabit Networks, Inc. Shaping up **packetsTraffic** shaping refers to a variety of techniques for manipulating and modifying data to help ensure QoS, such as **packet** segmentation. One of the reasons ATM networks provide high QoS is because of their use of small **packets** , or cells. The maximum amount of time any cell can be delayed is the time...

... vendors are adding segmentation capabilities to their products. Cisco's 12000 series routers internally segment **packets** across the backplane into 64-byte **packets** , which helps to ensure consistent QoS within the router. Several frame relay equipment vendors segment **packets** for transmission over WAN links as a means of ensuring predictable delivery and minimal delay...

... of traffic shaping. A number of protocols such as AppleTalk exhibit a tendency to transmit **packets** unevenly, which is sometimes known as creating trains of **packets** . Traffic metering spaces out the trains prior to transmission by temporarily storing **packets** in buffers to make sure the network isn't overloaded. Metering also can be used...

... implements, the device works by itself to get data to its destination. For example, a **packet** could proceed through the first few devices and links with no problem, and then encounter a link that prevents proper QoS from being provided. Because the devices that the **packet** has already traversed function independently, they can't take steps to avoid the defective link...
... QoS settings and dynamically configure routers and switches. The policy servers will also consult network **directories** such as Novell **Directory** Services to determine the appropriate service **levels** specific users and applications require. Policy servers and **directories** will typically use Lightweight **Directory** Access Protocol to communicate.Policy servers still aren't available, but the products are expected...

... and can use a queuing algorithm such as WFQ to provide the most appropriate service **levels** to every flow. The switch manages congestion and also provides traffic policing and shaping. Queues...

```
Set      Items   Description
S1      123980   DATAPACKET? OR BINARY()STRING? OR PACKET? OR DATAGRAM? OR -
              DATA()(BUNDLE? OR BLOCK?)
S2     3804021   IDENTIF? OR CLASSIF? OR INDEX? OR SORT OR SORTING OR SORTED
              OR SORTER OR DEMULTIPLEX?
S3      408935   TREE OR DIRECTORY OR DIRECTORIES OR TREES OR DECISIONTREE?
              OR BTREE
S4     4827847   CRITERIA? OR RULE? OR FACTOR? OR FILTER?
S5     5153588   LEVEL? OR TIER? OR BRANCH? OR CHILD? OR NODE? OR LEAF?
S6     1787994   EXTERNAL()INFORMATION? OR ORIGINAT? OR SOURCE? OR HEADER? -
              OR DATA()(TYPE? OR FORMAT?)
S7          73   S1 AND S2 AND S3 AND S4
S8          21   S7 AND (S5 OR S6)
S9          24   S1 AND S2 AND S3 AND S5 AND S6
S10         42   S8 OR S9
S11         28   S10 NOT PY>2000
S12         28   S11 NOT PD>20000413
S13         23   RD (unique items)
File   8:Ei Compendex(R) 1970-2003/Jun W1
         (c) 2003 Elsevier Eng.  Info. Inc.
File  35:Dissertation Abs Online 1861-2003/May
         (c) 2003 ProQuest Info&Learning
File  65:Inside Conferences 1993-2003/Jun W2
         (c) 2003 BLDSC all rts. reserv.
File   2:INSPEC 1969-2003/Jun W1
         (c) 2003 Institution of Electrical Engineers
File  94:JICST-EPlus 1985-2003/Jun W2
         (c)2003 Japan Science and Tech Corp(JST)
File 111:TGG Natl.Newspaper Index(SM) 1979-2003/Jun 06
         (c) 2003 The Gale Group
File 233:Internet & Personal Comp. Abs. 1981-2003/May
         (c) 2003 Info. Today Inc.
File 144:Pascal 1973-2003/May W4
         (c) 2003 INIST/CNRS
File  34:SciSearch(R) Cited Ref Sci 1990-2003/Jun W1
         (c) 2003 Inst for Sci Info
File  99:Wilson Appl. Sci & Tech Abs 1983-2003/Apr
         (c) 2003 The HW Wilson Co.
```

13/5/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05785497 E.I. No: EIP01025533047
Title: High-speed packet classification **using segment** tree
Author: Su, Ching-Fong
Corporate Source: Fujitsu Lab of America, Sunnyvale, CA, USA
Conference Title: IEEE Global Telecommunication Conference (GLOBECOM'00)
Conference Location: San Francisco, CA, USA
Source: Conference Record / IEEE Global Telecommunications Conference v 1 2000. IEEE, Piscataway, NJ, USA,00CB37137. p 582-586
Publication Year: 2000
CODEN: CRIEET
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 0103W3
Abstract: As Internet grows into a commercial infrastructure, more and more network services require routers to **classify packets** based on one or more fields in the **header** in order to provide QoS differentiation. The biggest challenge for **packet classification** is to keep **classification** time and storage requirements small. In this paper we design a fast 2-dimensional **packet classification** algorithm with small memory requirement. The algorithm draws on Computational Geometry techniques - segment **tree** and fractional cascading to achieve logarithmic **classification** time. For a database of N **filters** , the proposed algorithm can complete a **classification** in O(logN) time and the memory requirement is in the order of O(NlogN). (Author abstract) 21 Refs.
Descriptors: **Packet** networks; Internet; Routers; Computational complexity; Database systems; Algorithms; Computational geometry; **Trees** (mathematics)
Identifiers: **Packet classification** algorithms
Classification Codes:
722.3 (Data Communication, Equipment & Techniques); 721.1 (Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory); 723.3 (Database Systems)
716 (Radar, Radio & TV Electronic Equipment); 723 (Computer Software); 722 (Computer Hardware); 721 (Computer Circuits & Logic Elements); 921 (Applied Mathematics)
71 (ELECTRONICS & COMMUNICATIONS); 72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

13/5/2 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05300753 E.I. No: EIP99064697559
Title: Multicast-based inference of network-internal characteristics: Accuracy of packet **loss estimation**
Author: Caceres, R.; Duffield, N.G.; Horowitz, J.; Towsley, D.; Bu, T.
Corporate Source: AT&T Lab-Research, Florham Park, NJ, USA
Conference Title: Proceedings of the 1999 18th Annual Joint Conference of the IEEE Computer and Communications Societie, INFOCOM-99
Conference Location: New York, NY, USA Conference Date: 19990321-19990325
Sponsor: IEEE Computer Society; IEEE Communications Society
E.I. Conference No.: 55134
Source: Proceedings - IEEE INFOCOM v 1 1999. p 371-379
Publication Year: 1999
CODEN: PINFEZ ISSN: 0743-166X
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 9908W1
Abstract: We explore the use of end-to-end multicast traffic as measurement probes to infer network-internal characteristics. We have developed in an earlier paper a Maximum Likelihood Estimator for **packet**

loss rates on individual links based on losses observed by multicast receivers. This technique exploits the inherent correlation between such observations to infer the performance of paths between **branch** points in the multicast **tree** spanning the probe **source** and its receivers. We evaluate through analysis and simulation the accuracy of our estimator under a variety of network conditions. In particular, we report on the error between inferred loss rates and actual loss rates as we vary the network topology, propagation delay, **packet** drop policy, background traffic mix, and probe traffic type. In all but one case, estimated losses and probe losses agree to within 2 percent on average. We feel this accuracy is enough to reliably **identify** congested links in a wide-area internetwork. (Author abstract) 34 Refs.

Descriptors: Internet; Multicasting; Telecommunication traffic; Maximum likelihood estimation; Mathematical models; **Packet** networks

Identifiers: End-to-end multicast traffic; **Packet** loss

Classification Codes:

723 (Computer Software); 716 (Radar, Radio & TV Electronic Equipment); 717 (Electro-Optical Communications); 718 (Telephone & Line Communications); 922 (Statistical Methods); 921 (Applied Mathematics)

72 (COMPUTERS & DATA PROCESSING); 71 (ELECTRONICS & COMMUNICATIONS); 92 (ENGINEERING MATHEMATICS)

13/5/3 (Item 3 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

05300751 E.I. No: EIP99064697557

Title: Inference of multicast routing trees **and bottleneck bandwidths using end-to-end measurements**

Author: Ratnasamy, Sylvia; McCanne, Steven

Corporate Source: Univ of California, Berkeley, Berkeley, CA, USA

Conference Title: Proceedings of the 1999 18th Annual Joint Conference of the IEEE Computer and Communications Societie, INFOCOM-99

Conference Location: New York, NY, USA Conference Date: 19990321-19990325

Sponsor: IEEE Computer Society; IEEE Communications Society

E.I. Conference No.: 55134

Source: Proceedings - IEEE INFOCOM v 1 1999. p 353-360

Publication Year: 1999

CODEN: PINFEZ ISSN: 0743-166X

Language: English

Document Type: JA; (Journal Article) Treatment: G; (General Review)

Journal Announcement: 9908W1

Abstract: The efficacy of end-to-end multicast transport protocols depends critically upon their ability to scale efficiently to a large number of receivers. Several research multicast protocols attempt to achieve this high scalability by **identifying** sets of co-located receivers in order to enhance loss recovery, congestion control and so forth. A number of these schemes could be enhanced and simplified by some **level** of explicit knowledge of the topology of the multicast distribution **tree** , the value of the bottleneck bandwidth along the path between the **source** and each individual receiver and the approximate location of the bottlenecks in the **tree** . In this paper, we explore the problem of inferring the internal structure of a multicast distribution **tree** using only observations made at the end hosts. By noting correlations of loss patterns across the receiver set and by measuring how the network perturbs the fine-grained timing structure of the **packets** sent from the **source** , we can determine both the underlying multicast **tree** structure as well as the bottleneck bandwidths. Our simulations show that the algorithm is robust and appears to converge to the correct **tree** with high probability. (Author abstract) 20 Refs.

Descriptors: Network protocols; Multicasting; Bandwidth; **Trees** (mathematics); Mathematical models; Algorithms

Identifiers: Multicast transport protocols

Classification Codes:

716.1 (Information & Communication Theory); 921.4 (Combinatorial Mathematics, Includes Graph Theory, Set Theory)

723 (Computer Software); 716 (Radar, Radio & TV Electronic Equipment); 717 (Electro-Optical Communications); 718 (Telephone & Line Communications); 921 (Applied Mathematics)
72 (COMPUTERS & DATA PROCESSING); 71 (ELECTRONICS & COMMUNICATIONS); 92 (ENGINEERING MATHEMATICS)

13/5/4 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04110062 E.I. No: EIP95032621797
Title: Distributed routing algorithm for multihop packet **radio networks with uni- and bi-directional links**
Author: Pomalaza-Raez, Carlos
Corporate Source: Purdue Univ, Fort Wayne, IN, USA
Conference Title: Proceedings of the 1994 Tactical Communications Conference
Conference Location: Fort Wayne, IN, USA Conference Date: 19940510-19940512
Sponsor: ARPA; IEEE; AFCEA
E.I. Conference No.: 42621
Source: Tactical Communications Conference - Proceedings v 1 1994. IEEE, Piscataway, NJ, USA,94TH0678-3. p 365-369
Publication Year: 1994
CODEN: 001965
Language: English
Document Type: CA; (Conference Article) Treatment: G; (General Review); T; (Theoretical)
Journal Announcement: 9505W2
Abstract: A distributed routing algorithm for multihop **packet** radio networks with uni- and bi-directional links is described. The manner in which the **packets** are forwarded in the method proposed is called incremental **source** routing, where each **node** keeps a routing table which indicates the next hop for each network final destination. The simulation program has been **identified** to be very useful to refine the algorithm and gain a deeper understanding of **packet** routing mechanisms. 2 Refs.
Descriptors: **Packet** networks; Algorithms; Frequency hopping; Network protocols; Information dissemination; Computer simulation; Computational complexity; Radio links; **Trees** (mathematics)
Identifiers: Network topologies; **Packet** forwarding; Incremental **source** routing; Unidirectional links; Bi directional links; Breadth first searchers; Network connectivity knowledge; Connectivity matrix
Classification Codes:
716.3 (Radio Systems & Equipment); 716.1 (Information & Communication Theory); 903.2 (Information Dissemination); 723.5 (Computer Applications)
716 (Radar, Radio & TV Electronic Equipment); 921 (Applied Mathematics); 723 (Computer Software); 903 (Information Science)
71 (ELECTRONICS & COMMUNICATIONS); 92 (ENGINEERING MATHEMATICS); 72 (COMPUTERS & DATA PROCESSING); 90 (GENERAL ENGINEERING)

13/5/5 (Item 5 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04102059 E.I. No: EIP95022595389
Title: Separability based tree **structured local basis selection for texture** classification
Author: Etemad, Kamran; Chellappa, Rama
Corporate Source: Univ of Maryland, College Park, MD, USA
Conference Title: Proceedings of the 1994 1st IEEE International Conference on Image Processing. Part 3 (of 3)
Conference Location: Austin, TX, USA Conference Date: 19941113-19941116
Sponsor: IEEE
E.I. Conference No.: 42570
Source: IEEE International Conference on Image Processing v 3 1994. IEEE, Los Alamitos, CA, USA,94CH35708. p 441-445

Publication Year: 1994
CODEN: 001953
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications); T ; (Theoretical)
Journal Announcement: 9505W1
Abstract: A new algorithm for task dependent selection of wavelet **packet trees** for signal **classification** is suggested. The algorithm is based on a class separability measure rather than energy or entropy. At each **level** the class separabilities obtained from a parent **node** and its **children** are computed and compared. The decomposition of the **node** (or subband) is performed if it provides larger separability. The suggested algorithm is tested for texture **classification** . The method can also be used with other **tree** structured local basis e.g. local trigonometric basis functions. Also it can be applied to detection, **classification** or segmentation of different 1-D and 2-D signals. (Author abstract) 13 Refs.
Descriptors: Image analysis; **Classification** (of information); Wavelet transforms; **Trees** (mathematics); Algorithms; Calculations; Functions; Image segmentation; Waveform analysis; Iterative methods
Identifiers: Texture **classification** ; Wavelet **packet trees** ; Signal **classification** ; Parent **node** ; Trigonometric basis function; Signal segmentation; Class separation; Quasi periodic signals; Subband coding; Quadrative mirror **filter**
Classification Codes:
723.2 (Data Processing); 921.3 (Mathematical Transformations); 921.6 (Numerical Methods)
723 (Computer Software); 921 (Applied Mathematics)
72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

13/5/6 (Item 6 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

01185632 E.I. Monthly No: EI8204027669 E.I. Yearly No: EI82018139
Title: DELAY ANALYSIS OF BROADCAST ROUTING IN PACKET **-SWITCHING NETWORKS.**
Author: Gopal, Gita; Wong, J. W.
Corporate Source: Univ of Waterloo, Ont, Can
Source: IEEE Transactions on Computers v C-30 n 12 Dec 1981 p 915-922
Publication Year: 1981
CODEN: ITCOB4 ISSN: 0018-9340
Language: ENGLISH
Journal Announcement: 8204
Abstract: Broadcast addressing is the capability to send a **packet** from a **source node** to all other **nodes** in the network. Store-and-forward, **packet** -switching networks are not inherently designed to carry broadcast **packets** , and broadcasting has to be implemented by some **sort** of routing algorithm. In this work, the **source** based forwarding algorithm is considered. With this algorithm, a spanning **tree** is defined for each **node** , and broadcast **packets** are sent along the **branches** of these **trees** . Approximation methods are presented to obtain a lower bound and estimates of the mean broadcast time. The accuracy of these methods is evaluated by comparison with simulation. 13 refs.
Descriptors: *COMPUTER NETWORKS
Classification Codes:
723 (Computer Software)
72 (COMPUTERS & DATA PROCESSING)

13/5/7 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01734722 ORDER NO: AADAA-I9960737
Flow and congestion control for reliable multicast communication in wide-area networks
Author: Bhattacharyya, Supratik

Degree: Ph.D.
Year: 2000
Corporate Source/Institution: University of Massachusetts Amherst (0118)
Directors: James F. Kurose; Donald F. Towsley
Source: VOLUME 61/02-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 926. 187 PAGES
Descriptors: COMPUTER SCIENCE ; ENGINEERING, ELECTRONICS AND ELECTRICAL
Descriptor Codes: 0984; 0544

Applications involving the reliable transfer of large volumes of data from a **source** to multiple destinations across wide-area networks are expected to become increasingly important in the near future. A few examples are point-to-multipoint ftp, news distributions, Web caching and software updates. Multicasting technology promises to enhance the capabilities of wide-area networks for Supporting these applications.

Flow and congestion control have emerged as one of the biggest challenges in the large-scale deployment of reliable multicast in the Internet. This thesis addresses two specific problems in the design of transport- **level** flow/congestion control schemes for reliable multicast data transfer: (1) How should feedback-based congestion control schemes be designed for regulating the rate of transmission of data to a single multicast group? (2) How can multiple multicast groups be used to improve the efficiency of bulk data delivery?

The first part of this thesis focuses on the design and evaluation of multicast congestion control schemes in which a **source** regulates its transmission rate in response to **packet** loss indications from its receivers. We **identify** and analyze an important problem that arises because a transmitted **packet** may get lost on one or more of the many end-to-end paths in a multicast **tree** , and also study its impact on fair bandwidth sharing among co-existing multicast and unicast sessions. An outcome of this work is a fair congestion control approach that scales well to large multicast groups. We also design and examine a prototype protocol that is “TCP-friendly”.

The second part of this thesis considers the problem of efficiently transferring data to a large number of destinations in the presence of heterogeneous bandwidth constraints in different parts of a network. We propose a novel approach in which the sender stripes data across multiple multicast groups and transmits it to different sub-groups of receivers at different rates. We also design and evaluate simple and bandwidth-efficient algorithms for determining the transmission rates associated with each multicast group.

13/5/8 (Item 2 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01432377 ORDER NO: AADAA-I9531063
MANAGEMENT OF SCIENTIFIC IMAGE DATABASES USING WAVELETS (INDEXING)
Author: PEREZ-LOPEZ, KATHLEEN GOLITKO
Degree: PH.D.
Year: 1995
Corporate Source/Institution: GEORGE MASON UNIVERSITY (0883)
Director: ARUN K. SOOD
Source: VOLUME 56/05-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 2727. 201 PAGES
Descriptors: COMPUTER SCIENCE
Descriptor Codes: 0984

Managing databases of scientific images and providing adequate access to this data require new techniques that address **indexing** visual content, providing browse capabilities, and facilitating querying by image content, while representing the data in a concise, essentially lossless manner. In addition to the tremendous sizes of these databases, and the fact that images are more difficult to describe than the textual information found in standard relational databases, the natural **sources** of scientific images confound the management tasks. Remotely sensed terrain images and radiological images of human tissue do not generally consist of uniform

regions separated by distinct, straight line edges, as is often the case for images of manufactured objects. Instead they are comprised of areas of different randomly textured patterns blending into each other at different scales. Such scenes are extremely difficult to describe succinctly, either textually or mathematically. Researchers in the area of **indexing** visual content of images have primarily attempted to describe scenes in which the focus is on manufactured objects and the natural elements are considered background clutter.

In my dissertation research, I have developed an automatic three-**tiered** **indexing** scheme for scientific image databases. It provides mechanisms for producing browse images and query by visual content, and it is compatible with compression schemes being studied and implemented in a number of scientific disciplines. The **indexing** scheme involves a frequency decomposition of images using the wavelet **packet** transform, and the construction of a pruned **tree** of significant subbands. The **tree** structure forms the first **tier** of the **index** . Measures computed on the significant subbands constitute the second **index** **tier** . The third **index** **tier** consists of the transform coefficients for significant subbands, which can be reconstructed to create a visual **index** to the image data.

I have implemented the scheme and tested it through experiments involving a number of different component measures. These measures included traditional statistics and texture features, and a new vector of elements called clique organization parameters (COPs). COPs are based on Gibbs random field considerations, and proved to be the most successful of the measures examined, both for determining subband significance and as components of the second **index** **tier** . They correctly **classified** 97% of 192 textured images from 12 sets, many of which depicted naturally formed materials.

13/5/9 **(Item 3 from file: 35)**

01431831 ORDER NO: AADAA-I9529930
A THEORETICAL NETWORK MODEL AND THE INCREMENTAL HYPERCUBE-BASED NETWORKS (HAMMING GROUPS, GRAPH THEORY)
Author: MAO, AI-SHENG
Degree: PH.D.
Year: 1995
Corporate Source/Institution: NORTH TEXAS STATE UNIVERSITY (0158)
Source: VOLUME 56/05-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 2724. 164 PAGES
Descriptors: COMPUTER SCIENCE
Descriptor Codes: 0984

The study of multicomputer interconnection networks is an important area of research in parallel processing. We introduce vertex-symmetric Hamming group graphs as a model to design a wide variety of network topology including hypercubes. A Hamming-group graph HGG = (V, Ω) is a transformation graph for which **node** -set V = $\{i\vert 0 \leq i < 2 \sp{n}$ and n $\geq$ 1$\}$ is the Hamming group containing all **binary** **strings** of length n. A generator $\omega\in\Omega$, which is also a bit string of length n, acts on the Hamming group by the bitwise Exclusive-OR operation. The concept of incremental Hamming-group graphs enhances the network design with unit incremental capability. In particular, this model provides a unifying framework for generating many possible supergraphs of incomplete hypercubes having an arbitrary number of **nodes** . From our model, we derive and analyze two new families of succinctly representable and labeled networks, called the Hamming cubes and the enhanced generalized incomplete hypercubes.

The Hamming cube (HC) networks can recursively grow from the existing ones with the increment of one **node** at a time, have half of logarithmic diameter, and are easily decomposable. Simple oblivious (or non-adaptive) routing schemes are so designed that the routing paths have the optimal length bounded by the network diameter. Hamming cubes are shown to be optimally fault-tolerant, strongly resilient, and they exhibit very good performance even under multiple faults. The reliability and fault-tolerance

of $HC\sb{n}$, the n-dimensional Hamming cube of 2$\sp{n}$ **nodes** , are better than those of the binary hypercube ($Q\sb{n}$). We design a testing algorithm for a faulty HC$\sb{n}$ and our diagnostic algorithm can **identify** up to n + 1 faulty processors. Taking advantages of enhanced edges and recursive nature, the average distance, average-distance-degree cost, and message traffic density of HC$\sb{n}$ are all less than those parameters of $Q\sb{n}$. Furthermore, $HC\sb{n}$ has constant vulnerability and can be laid out in an O(N $\times$ N) square, where N = 2$\sp{n}$.

An enhanced generalized incomplete hypercube (EGIQ) can be viewed as an "enhanced" incomplete hypercube with extra links or a "generalized" folded hypercube with incrementability of one. This proposed family of networks also has half of logarithmic diameter. Simple deterministic routing schemes are designed, having path lengths bounded by the diameter. Due to additional enhanced links, both the networks EGIQ(N) and HC(N) for an arbitrary order N, have improved values of network parameters compared to the existing incomplete hypercubes.

In addition to the routing schemes (i.e., one-to-one communication), we design the broadcasting (i.e., one-to-all communication) schemes for the proposed networks by constructing two types of embedded directed broadcasting **trees** --spanning **trees** and multiple spanning **trees** (MUST's)--from arbitrary **source nodes** . A MUST is composed of at least one edge-disjoint spanning **tree** . An analysis of the time complexities of broadcasting schemes under the one-port and all-port communication models concludes that Hamming cubes and enhanced generalized incomplete hypercubes provide more efficient communication network topologies than the complete or incomplete binary hypercubes. (Abstract shortened by UMI.)

13/5/10 (Item 4 from file: 35)

0979992 ORDER NO: AAD13-31399
PERFORMANCE OF HIERARCHICALLY FLEXIBLE ADAPTIVE COMPUTER ARCHITECTURE APPLIED TO SORTING **PROBLEMS**
Author: FERNG, MING-JEHN
Degree: M.S.
Year: 1987
Corporate Source/Institution: THE UNIVERSITY OF ARIZONA (0009)
Source: VOLUME 26/02 of MASTERS ABSTRACTS.
PAGE 0265. 135 PAGES
Descriptors: ENGINEERING, ELECTRONICS AND ELECTRICAL
Descriptor Codes: 0544

In this thesis existing models of adaptive computer architecture were modified to adapt actual **sorting** problems to "divide 'n' conquer" (DQ) coordinator type configuration in which the **children** processors were expanded from three to four.

Two hire/fire strategies, one using **packets** waiting in queue and the other using the average turn around time, were applied to maintain the hierarchical **tree** structure. More than 1200 simulation runs were analyzed and compared, finding that the first strategy was best at fast **packet** arrival rate and the second strategy was best at slow **packets** arrival rate. Comparing the hire/fire signal generation policies, the "fc-root" was best and the "root-fp" was worst. While comparing the effect of variable weighting **factors** in processors, using smaller weighting **factor** in either "partitioner" for the first strategy or "f-computer" for the second strategy may improve the system performance. (Abstract shortened with permission of author.)

13/5/11 (Item 5 from file: 35)

904629 ORDER NO: NOT AVAILABLE FROM UNIVERSITY MICROFILMS INT'L.
QUEUES AND PACKET **MULTIPLEXING NETWORKS**
Author: SHALMON, MICHAEL SERGIU

Degree: PH.D.
Year: 1985
Corporate Source/Institution: MCGILL UNIVERSITY (CANADA) (0781)
Source: VOLUME 46/11-B OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 3984.
Descriptors: ENGINEERING, MECHANICAL
Descriptor Codes: 0548

This thesis has to do with certain fundamental queues that are well established as models for delay in simple **packet** -switching concentrators and networks. We first revisit the single server queue with Poisson arrivals and general independent service times. We then work out a complete delay analysis for a traffic concentrating tandem network of queues with deterministic service and batch Poisson **sources** connected to every **node** ; this is the most comprehensive analysis available for a network which is not of Jackson type. We also show how to (partially) extend the analysis to a concentrating **tree** network, and to an arrival process somewhat more general that batch Poisson.

The two parts of the thesis have a close methodological relationship. Our contribution in both cases is to rederive certain known results, and to produce a variety of new ones, using techniques that are essentially qualitative. Our particular view of the stochastic processes in question is guided by a very special queue discipline, namely Last Come First Served preemptive resume; by **identifying** certain structural features of the sample paths, one can read, almost without calculation, a host of statistics of common interest. The LCFS preemptive resume discipline also enables us: (i) to strengthen the connection between the single server queue with general independent service times and interarrival times, and the fluctuation theory of random walks; (ii) to strengthen the connection between the queue with Poisson arrivals and **branching** processes.

13/5/12 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6991291 INSPEC Abstract Number: B2001-09-6250-009
Title: Energy efficiency of centrally controlled transmission of fixed size packets
Author(s): Stine, J.A.; de Veciana, G.
Author Affiliation: Dept. of Electr. & Comput. Eng., Texas Univ., Austin, TX, USA
Conference Title: 2000 IEEE Wireless Communications and Networking Conference. Conference Record (Cat. No.00TH8540) Part vol.2 p.765-70 vol.2
Publisher: IEEE, Piscataway, NJ, USA
Publication Date: 2000 Country of Publication: USA 3 vol. xxx+11602 pp.
ISBN: 0 7803 6596 8 Material Identity Number: XX-2001-00198
U.S. Copyright Clearance Center Code: 0 7803 6596 8/2000/$10.00
Conference Title: Proceedings of IEEE Conference on Wireless Communications and Networking
Conference Date: 23-28 Sept. 2000 Conference Location: Chicago, IL, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Theoretical (T)
Abstract: Wireless network access protocols can assist **nodes** to conserve energy by **identifying** when they can enter a low energy doze state. The goal is to put all **nodes** not involved in a transmission into the doze state. However, in doing so, one must tradeoff the energy cost of coordinating dozing with the energy savings of putting **nodes** to sleep. In this paper, we define three alternative **directory** protocols that may be used by a central **node** to coordinate the transmission of data and the dozing of **nodes** . We attempt to optimize their performance by using scheduling and protocol parameter tuning. In addition, we consider the impact of errors and error recovery methods on energy consumption. Although

one can argue that carefully scheduling transmissions will improve performance, ultimately, appropriately tuning protocols reduces scheduling significance. In most cases, scheduling transmissions between the same **nodes** continuously and ordering such transmissions shortest processing time first results in good performance. However, the ability of our protocols to conserve energy is highly dependent on 1) network size, 2) traffic type (e.g. down/uplink, and peer-to-peer) and 3) channel bit error rate. In particular, we show that when protocols are faced with **packet** errors, more elaborate schemes of coordinating the dozing of **nodes** can pay-off. Our simulations show that while energy savings can vary by a **factor** of 10 over the class of protocols we considered throughput varies by less than 20%. (9 Refs)

Subfile: B

Descriptors: access protocols; **packet** radio networks; scheduling; telecommunication control

Identifiers: energy efficiency; centrally controlled transmission; fixed size **packets** ; wireless network access protocols; low energy doze state; **directory** protocols; central **node** ; performance; scheduling; protocol parameter tuning; error recovery methods; errors; energy consumption; network size; traffic type; channel bit error rate; **packet** errors

Class Codes: B6250 (Radio links and equipment); B6150M (Protocols)

13/5/13 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

6943470 INSPEC Abstract Number: B2001-07-6150P-026, C2001-07-5620W-058

Title: High-speed packet classification **using segment** tree

Author(s): Ching-Fong Su

Author Affiliation: Fujitsu Labs. of America, Sunnyvale, CA, USA

Conference Title: Globecom '00 - IEEE. Global Telecommunications Conference. Conference Record (Cat. No.00CH37137) Part vol.1 p.582-6 vol.1

Publisher: IEEE, Piscataway, NJ, USA

Publication Date: 2000 Country of Publication: USA 3 vol. xlvi+1898 pp.

ISBN: 0 7803 6451 1 Material Identity Number: XX-2000-01111

U.S. Copyright Clearance Center Code: 0 7803 6451 1/2000/$10.00

Conference Title: Proceedings of Global Telecommunications Conference

Conference Date: 27 Nov.-1 Dec. 2000 Conference Location: San Francisco, CA, USA

Medium: Also available on CD-ROM in PDF format

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T); Experimental (X)

Abstract: As the Internet grows into a commercial infrastructure, more and more network services require routers to **classify packets** based on one or more fields in the **header** in order to provide QoS differentiation. The biggest challenge for **packet classification** is to keep the **classification** time and storage requirements small. We design a fast 2-dimensional **packet classification** algorithm with small memory requirement. The algorithm draws on computational geometry techniques-segment **tree** and fractional cascading to achieve logarithmic **classification** time. For a database of N **filters** , the proposed algorithm can complete a **classification** in O(logN) time and the memory requirement is in the order of O(NlogN). (21 Refs)

Subfile: B C

Descriptors: computational complexity; computational geometry; Internet; **packet** switching; quality of service; signal **classification** ; telecommunication network routing; **trees** (mathematics); two-dimensional digital **filters**

Identifiers: high-speed **packet classification** ; segment **tree** ; **packet** forwarding; commercial infrastructure; network services; Internet routers; **header** fields; QoS differentiation; **classification** time; storage requirements; fast 2D **packet classification** algorithm; computational geometry; fractional cascading; logarithmic **classification** time; 2D **filters** database; computational complexity

Class Codes: B6150P (Communication network design, planning and routing); B6210L (Computer communications); B6140B (Filtering methods in signal processing); C5620W (Other computer networks); C5260 (Digital signal processing); C4240C (Computational complexity)

13/5/14 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

6542267 INSPEC Abstract Number: A2000-09-0365-033
Title: Disheveled Arnold's cat and the problem of quantum-classic correspondence
Author(s): Kuznetsov, S.P.
Author Affiliation: Inst. of Radio Eng. & Electron., Acad. of Sci., Saratov, Russia
Journal: Physica D vol.137, no.3-4 p.205-27
Publisher: Elsevier,
Publication Date: 15 March 2000 Country of Publication: Netherlands
CODEN: PDNPDT ISSN: 0167-2789
SICI: 0167-2789(20000315)137:3/4L.205:DAPQ;1-V
Material Identity Number: P293-2000-006
U.S. Copyright Clearance Center Code: 0167-2789/2000/$20.00
Document Number: S0167-2789(99)00182-7
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: Quantum Arnold's cat map is studied for a case of perfect square inverse Planck's constant, N=M/sup 2/. The classic limit is analyzed on a subset of numbers N increasing as 4/sup k/. The quantum problem in this case allows exact reduction to the classic cat map defined on a discrete lattice of size M*M and supplemented by evolution of a phase variable. A link between the classic periodic orbits and spectrum of eigenvalues of the quantum evolution operator is outlined. For M growing as 2/sup k/ genetic analysis is developed for periodic orbits, and they are **classified** by means of a **tree** -like graph. A phase shift, accumulated over a period of the orbits, evolves from **level** to **level** of the graph according to a certain **rule** , governed by non-periodic binary code. Representation of a localized Gaussian wave **packet** in a basis of eigenvectors of the evolution operator gives rise to a probability measure distributed on a unit circle, where the eigenvalues are located. This measure looks like spectrum of a finite-time sample of a stationary random process (periodogram): (1) majority of the eigenstates have intensities of comparable order of magnitude, (2) the spectral distribution is of locally random-like nature, i.e. statistical variance of the amplitudes has the same order as the amplitudes themselves. This combination of properties in very straightforward manner follows from chaotic nature of the classic map and is conjectured to be the most fundamental attribute of quantum chaos. (50 Refs)
Subfile: A
Descriptors: chaos; correspondence principle; eigenvalues and eigenfunctions; lattice theory
Identifiers: disheveled Arnold's cat; quantum-classic correspondence; quantum Arnold's cat map; perfect square inverse Planck's constant; classic cat map; discrete lattice; classic periodic orbits; eigenvalue spectrum; quantum evolution operator; genetic analysis; **tree** -like graph; phase shift; nonperiodic binary code; localized Gaussian wave **packet** representation; probability measure; stationary random process; spectral distribution; statistical variance; classical chaotic map; quantum chaos
Class Codes: A0365B (Foundations, theory of quantum measurement, miscellaneous quantum theories); A0365S (Semiclassical theories and applications in quantum theory); A0545 (Theory and models of chaotic systems); A0550 (Lattice theory and statistics; Ising problems)

13/5/15 (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC

6375729 INSPEC Abstract Number: B1999-11-6150M-034, C1999-11-5640-027
Title: Efficient multi-field packet classification **for QoS purposes**
Author(s): Borg, N.; Svanberg, E.; Schelen, O.
Author Affiliation: Telia Res. AB, Lulea, Sweden
Conference Title: 1999 Seventh International Workshop on Quality of Service. IWQoS'99. (Cat. No.98EX354) p.109-18
Publisher: IEEE, Piscataway, NJ, USA
Publication Date: 1999 Country of Publication: USA vii+263 pp.
ISBN: 0 7803 5671 3 Material Identity Number: XX-1999-00454
U.S. Copyright Clearance Center Code: 0 7803 5671 3/99/$10.00
Conference Title: Proceedings of IWQoS'99 - Seventh International Workshop on Quality of Service
Conference Sponsor: IEEE Commun. Soc.; IFIP WG6.1; ACM SIGCOMM
Conference Date: 31 May-4 June 1999 Conference Location: London, UK
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P); Experimental (X)
Abstract: Mechanisms for service differentiation in **datagram** networks, such as the Internet, rely on **packet classification** in routers to provide appropriate service. **Classification** involves matching multiple **packet header** fields against a possibly large set of **filters identifying** the different service classes. In this paper, we describe a **packet classifier** based on tries and binomial **trees** and we investigate its scaling properties in three QoS scenarios that are likely to occur in the Internet. One scenario is based on integrated services and RSVP and the other two are based on differentiated services. By performing a series of tests, we characterize the processing and memory requirements for a software implementation of our **classifier** . Evaluation is done using real data sets taken from two existing high-speed networks. Results from the IntServ/RSVP tests on a Pentium 200 MHz show that it takes about 10.5 mu s per **packet** and requires 2000 KBytes of memory to **classify** among 11000 entries. **Classification** for a virtual leased line service based on DiffServ with the same number of entries takes about 9 mu s per **packet** and uses less than 250 KBytes of memory. With an average **packet** size of 2000 bits, our **classifier** can manage data rates of about 200 Mbit/s on a 200 MHz Pentium. We conclude that multi-field **classification** is feasible in software and that high-performance **classifiers** can run on low-cost hardware. (25 Refs)
Subfile: B C
Descriptors: Internet; **packet** switching; protocols; quality of service; telecommunication network routing; **tree** data structures
Identifiers: multi-field **packet classification** ; QoS; service differentiation; **datagram** networks; Internet; routers; multiple **packet header** fields; tries; binomial **trees** ; scaling properties; integrated services; RSVP; differentiated services; software implementation; IntServ/RSVP tests; Pentium 200 MHz; virtual leased line service; DiffServ; data rates
Class Codes: B6150M (Protocols); B6210L (Computer communications); C5640 (Protocols); C5620W (Other computer networks)

13/5/16 (Item 5 from file: 2)
DIALOG(R)File 2:INSPEC

6337988 INSPEC Abstract Number: B1999-10-6150M-031
Title: Performance trade-offs in reliable group multicast protocols
Author(s): Shiwen Chen; Yener, B.; Ofek, Y.
Author Affiliation: Dept. of Comput. & Inf. Sci., New Jersey Inst. of Technol., Newark, NJ, USA
Conference Title: IEEE INFOCOM '99. Conference on Computer Communications. Proceedings. Eighteenth Annual Joint Conference of the IEEE Computer and Communications Societies. The Future is Now (Cat. No.99CH36320) Part vol.2 p.982-9 vol.2
Publisher: IEEE, Piscataway, NJ, USA
Publication Date: 1999 Country of Publication: USA 3 vol. xxv+1583

pp.
ISBN: 0 7803 5417 6 Material Identity Number: XX-1999-00750
U.S. Copyright Clearance Center Code: 0 7803 5417 6/99/$10.00
Conference Title: Proceedings of INFOCOM'99: Conference on Computer Communications
Conference Sponsor: IEEE Comput. Soc.; IEEE Commun. Soc
Conference Date: 21-25 March 1999 Conference Location: New York, NY, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Theoretical (T)
Abstract: This paper presents an extensive performance study in order to **identify** some tradeoffs between **tree** -based and ring-based reliable group multicast protocols. The motivation for such a study is the following observation. In communications network routing from one **node** to another over a **tree** embedded in the network is intuitively a good strategy, since it typically results in a route length of O(log n) links, while routing from one **node** to another over a ring embedded in the network would result in route length of O(n) links. However, in a group multicast (many-to-many) the overall number of links traversed by each **packet** for both **tree** and ring embedding is typically O(N), so both approaches have similar communication requirements. In reliable group multicast protocols the traffic pattern is complex, since **packets** are sent from a multicast **source** to the multiple destinations, and then some control **packets** are sent back to the **source** , and this can result in resending of some of the original **packets** . Consequently, determining under what condition the **tree** -based approach is better than ring-based approach is not obvious. The key **criteria** for evaluating the performance of a reliable group multicast protocol is (i) how many successful multicast were achieved per unit time, and (ii) what is the efficiency of the multicast, namely, the ratio between the number of successful transmission and the total number of **packets** that were transmitted. Under the above **criteria** it is shown that the ring-based multicast often performs better than the **tree** -based multicast. One of the main reasons for this result is that ring-based multicast is window-based with simple and effective management of acknowledgments and retransmissions, while the **tree** -base is rate-based with complex and slow management of acknowledgments and retransmissions. (12 Refs)
Subfile: B
Descriptors: multicast communication; **packet** switching; telecommunication congestion control; telecommunication network reliability ; telecommunication network routing; telecommunication traffic; transport protocols
Identifiers: reliable group multicast protocols; performance trade-offs; ring-based multicast protocol; **tree** -based multicast protocol; communications network routing; route length; traffic pattern; **packet** transmission; multicast **source** ; control **packets** ; multicast efficiency; successful multicast per unit time; ratio; successful transmission; window-based multicast; acknowledgments management; retransmissions management; congestion collapse; congestion control
Class Codes: B6150M (Protocols); B6150P (Communication network design, planning and routing)

13/5/17 (Item 6 from file: 2)
DIALOG(R)File 2:INSPEC

5467228 INSPEC Abstract Number: B9702-6150M-022
Title: Adaptive digital access protocol: new features and performance improvements
Author(s): Doshi, B.T.; Dravida, S.; Kustka, G.J.; Magill, P.D.; Siller, C.A., Jr.; Sriram, K.
Author Affiliation: Lucent Technol., AT&T Bell Labs., Holmdel, NJ, USA
Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA) vol.2917 p.178-87
Publisher: SPIE-Int. Soc. Opt. Eng,

Publication Date: 1996 Country of Publication: USA
CODEN: PSISDG ISSN: 0277-786X
SICI: 0277-786X(1996)2917L.178:ADAP;1-U
Material Identity Number: C574-96312
U.S. Copyright Clearance Center Code: 0 8194 2319 X/96/$6.00
Conference Title: Broadband Access Systems
Conference Sponsor: SPIE
Conference Date: 19-22 Nov. 1996 Conference Location: Boston, MA, USA
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)
Treatment: Applications (A)
Abstract: This paper reports on a broadband multiple access protocol for bi-directional hybrid fiber-coaxial (HFC) networks. Referred to here as the enhanced adaptive digital access protocol (ADAPt+/sup TM/), it builds upon earlier work to define a medium access control (MAC) protocol amenable to a multiple service environment supporting subscriber access in HFC networks with **tree** and **branch** topologies. ADAPt+ efficiently supports different access modes such as synchronous transfer mode (STM), asynchronous transfer mode (ATM), and variable length (VL) native data (e.g., IP, IPX). This enhanced protocol adapts to changing demands for a mix of circuit- and **packet** -mode applications, and efficiently allocates upstream and downstream bandwidth to isochronous and bursty traffic **sources** . This paper describes: ADAPt+ for upstream communication and multiplexing/ **demultiplexing** for downstream communication; its applicability to STM, ATM and other native data applications; and performance attributes such as bandwidth efficiency and latency. (9 Refs)
Subfile: B
Descriptors: access protocols; asynchronous transfer mode; broadband networks; cable television; circuit switching; **demultiplexing** ; multiplexing; network topology; optical fibre subscriber loops; **packet** switching; telecommunication traffic
Identifiers: adaptive digital access protocol; broadband multiple access protocol; bi-directional hybrid fiber-coaxial networks; HFC networks; access modes; medium access control; MAC protocol; multiple service environment; subscriber access; **tree** topologies; **branch** topologies; ADAPt+; synchronous transfer mode; CATV; ATM; variable length native data; circuit-mode applications; **packet** -mode applications; downstream bandwidth ; upstream bandwidth; isochronous traffic **sources** ; bursty traffic **sources**
Class Codes: B6150M (Protocols); B6260 (Optical links and equipment); B6220B (Subscriber loops); B6430D (CATV and wired systems)

13/5/18 (Item 7 from file: 2)
DIALOG(R)File 2:INSPEC

00921859 INSPEC Abstract Number: B76025570, C76015110
Title: Explicit path routing for switching network
Author(s): Jueneman, R.R.; Kerr, G.S.
Author Affiliation: IBM Corp., Armonk, NY, USA
Journal: IBM Technical Disclosure Bulletin vol.18, no.9 p.3059-62
Publication Date: Feb. 1976 Country of Publication: USA
CODEN: IBMTAA ISSN: 0018-8689
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: A method is described whereby individual messages in a store and forward or **packet** switching network can be routed over an explicitly determined path, from an **origination node** or message concentrator to a destination **node** . By using an appropriate path selection scheme at the origin **node** many variations of alternate and parallel paths are possible. (0 Refs)
Subfile: B C
Descriptors: **packet** switching; switching networks; **trees** (mathematics)
Identifiers: switching network; **packet** switching network; explicitly determined path; path selection; message **header** ; path indicator; next

node index ; first in first out; path routeing
Class Codes: B6150 (Communication switching theory); C4210 (Formal logic); C5620 (Computer networks and techniques)

13/5/19 (Item 1 from file: 94)
DIALOG(R)File 94:JICST-EPlus

03619144 JICST ACCESSION NUMBER: 98A0585728 FILE SEGMENT: JICST-E
A Routing Mechanism based on the Flow.
KOMAKI KENJIRO (1); TOKORO MARIO (2)
(1) Grad. Sch., Keio Univ.; (2) Keio Univ.
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1998, VOL.98,NO.50(IN98 24-32), PAGE.25-32, FIG.6, TBL.3, REF.8
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 681.3:654
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: In this research, we notice that (destination address, **source** address, destination port number, **source** port number) **identifies** flow uniquely, so we suggest routing mechanism froute, which can route every flow individually. In various way to accomplish froute, we choose expanding routing table and utilize Radix **Tree** mechanism which is used in existing routing table. With the special feature of Radix **Tree** mechanism which is the support for variable length address and non-consecutive netmask, we accomplish the routing mechanism which can be treated transparently with existing mechanism. Futhermore, we compare froute with existing mechanism and related works, then prove froute is useful. (author abst.)
DESCRIPTORS: computer network; **packet** switching; routing; **tree** (graph); repeater; flow control(information); system evaluation; protocol; LAN; internet; TCP-IP
BROADER DESCRIPTORS: communication network; information network; network; store-and-forward switching; communication exchanging; exchange; switching; selection; communication operation; operation(processing); subgraph; graph; communication apparatus; equipment; control; evaluation; **rule**
CLASSIFICATION CODE(S): JC03000K

13/5/20 (Item 2 from file: 94)
DIALOG(R)File 94:JICST-EPlus

02196883 JICST ACCESSION NUMBER: 94A0699521 FILE SEGMENT: JICST-E
Cache Directory **and Interconnection Network for Large Scale Distributed Shared-Memory Multiprocessors.**
AKIYAMA TOMOYUKI (1); KOIKE HANPEI (1); TANAKA HIDEHIKO (1)
(1) Univ. of Tokyo
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 1994, VOL.94,NO.164(CPSY94 41-54), PAGE.65-72, FIG.15, REF.11
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 681.32
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: In large scale distributed shared-memory computers, **directory** -based cache coherence protocol is generally used. The protocol does not rely on broadcast but 1-to-1 communication. When the number of processing elements grows to the **level** of 10,000, it is possible that one data set is shared by so many processing elements that using 1-to-1 communication is no longer a proper way because of the increase of

packets and the amount of **directory** . A solution of the problem is multicasting **packets** to all **nodes** that are considered possible to share a data. The amount of the **directory** is minimized because the **directory** should have only a pointer to the area which contains the data sharing **nodes** . In this paper, a category of interconnection networks, n-Recursive Torus Network(n-RTN) is first defined, which supports low-cost treeform multicasting for keeping cache coherence. And then, we propose a network, called RSOT(Recursive Orthogonal Torus), which is one of the networks **classified** into the category and the most suitable one for multicasting use. The mean internode distance of RSOT is smaller than that of Hypercube, while the degree is also smaller. RSOT contains mesh connection so that mesh algorithms can be applied without any modification. (author abst.)
DESCRIPTORS: parallel computer; data transfer; multiprocessor system; parallel processing; interconnection; **tree** structure; computer characteristic; protocol; input output control; access control; cache memory; computer architecture
BROADER DESCRIPTORS: digital computer; computer; hardware; computer system(hardware); system; treatment; connection; structure; characteristic; **rule** ; control system(computer); method; control; memory(computer); equipment; computer system(architecture
CLASSIFICATION CODE(S): JC020100

13/5/21 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

14491208 PASCAL No.: 00-0153797
Applicability of explicit congestion notification in very high speed networks
Internet II: quality of service and future directions : Boston MA, 20-21 September 1999
LAALAOUA R; DOTARO E; ATMACA T
ONVURAL Raif O, ed; CIVANLAR Seyhan, ed; LUCIANI James V, ed
Institut National des Telecommunications, 9 rue Charles Fourier, 91011 Evry, France
International Society for Optical Engineering, Bellingham WA, United States.
Internet II : quality of service and future directions. Conference (Boston MA USA) 1999-09-20
Journal: SPIE proceedings series, 1999, 3842 38-48
ISBN: 0-8194-3435-3 ISSN: 1017-2653 Availability: INIST-21760; 354000080084850040
No. of Refs.: 19 ref.
Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)
Country of Publication: United States
Language: English
Congestion control avoidance in computer networks is still a major unresolved issue. The applicability of previous congestion control mechanisms has to be demonstrated taking into account today's constraints. In this work, several schemes are studied in order to support differentiated services in a wide area, very high speed network. A three Class-of-Service (CoS) system is considered with various types of traffic. **Node** is then modelled by a **tree** queue system, each of which is dedicated to a set of traffic type. Fairness considerations are managed by the scheduling algorithm according to the priority of each CoS. Most of the traffic, particularly best effort traffic, remains bursty. Therefore, the aggregation of Markov Modulated **sources** used in this study attempts to generate realistic burstiness properties. Congestion control mechanisms deal with the well-known transient nature of the system behavior. In this context, there are some difficulties to establish relevant parameters for congestion state **identification** . The time-scale problem mainly lies in the congestion detection and the response-time of the congestion control mechanism. Several methods are compared according to various performance parameters such as delay, loss, average throughput or oscillations in traffic load. Those methods have to deal with two orthogonal constraints. One is to rub out transient behavior and imply a statistical view of the

node state which takes time. The other is to react as soon as possible when a congestion occurs, that is to minimize response-time. Another issue addressed in this study is the action that **sources** take when a congestion is signaled. We evaluate the impact of control parameters for Additive/Multiplicative, Increase/Decrease algorithm applied to the **source** .

English Descriptors: Telecommunication network; Wide area network; Very high speed; Teletraffic; Traffic control; Traffic congestion; Service quality; **Packet** switching; Scheduling; Modeling; Queueing system; Markov process; Probability density function; Algorithm performance; Experimental result; Waveform

French Descriptors: Reseau telecommunication; Reseau longue distance; Tres grande vitesse; Teletrafic; Regulation trafic; Congestion trafic; Qualite service; Commutation paquet; Ordonnancement; Modelisation; Systeme attente; Processus Markov; Fonction densite probabilite; Performance algorithme; Resultat experimental; Forme onde

Classification Codes: 001D04B03E

13/5/22 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

04484783 Genuine Article#: TF826 Number of References: 34
Title: ONLINE TRACKING OF MOBILE USERS
Author(s): AWERBUCH B; PELEG D
Corporate Source: JOHNS HOPKINS UNIV,DEPT ELECT ENGN & COMP SCI/BALTIMORE//MD/21218; WEIZMANN INST SCI/IL-76100 REHOVOT//ISRAEL/
Journal: JOURNAL OF THE ASSOCIATION FOR COMPUTING MACHINERY, 1995, V42, N5 (SEP), P1021-1058
ISSN: 0004-5411
Language: ENGLISH Document Type: ARTICLE
Geographic Location: USA; ISRAEL
Subfile: SciSearch; CC ENGI--Current Contents, Engineering, Technology & Applied Sciences
Journal Subject Category: COMPUTER SCIENCE, HARDWARE & ARCHITECTURE
Abstract: This paper deals with the problem of maintaining a distributed **directory** server, that enables us to keep track of mobile users in a distributed network. The paper introduces the graph-theoretic concept of regional matching, and demonstrates how finding a regional matching with certain parameters enables efficient tracking. The communication overhead of our tracking mechanism is within a polylogarithmic **factor** of the lower bound.
Descriptors--Author Keywords: DESIGN ; PROTOCOLS ; RELIABILITY ; THEORY ; VERIFICATION ; BOUNDED **PACKET HEADER** ; BOUNDED PROTOCOL ; IDEAL TRANSMISSION COST ; LOOKAHEAD ; NON-FIFO CHANNELS ; RECEIVER-DRIVEN PROTOCOL ; RECOVERABLE PROTOCOL ; RECOVERY COST ; SEQUENCE TRANSMISSION PROBLEM
Identifiers--KeyWords Plus: ALGORITHM
Research Fronts: 93-0305 002 (DISTRIBUTED SYSTEMS; PARALLEL DISCRETE EVENT SIMULATIONS; REPLICATED MULTIVERSION DATABASES)
93-2260 001 (ONLINE ALGORITHMS; RANDOMIZED ADAPTIVE **SORTING** ; INCREASING **TREES**)
Cited References:
AFEK Y, 1987, 28TH P S F COMP SCI
AWERBUCH B, 1991, P410, APR P INFOCOM
AWERBUCH B, 1990, CS9017 WEIZM I TECH
AWERBUCH B, 1985, V32, P804, J ASSOC COMPUT MACH
AWERBUCH B, 1990, V5, P151, SIAM J DISCRETE MATH
AWERBUCH B, 1991, UNPUB FAST CONSTRUCT
AWERBUCH B, 1992, P169, 11TH P ANN ACM S PRI
AWERBUCH B, 1992, P571, 24TH P ANN ACM S THE

AWERBUCH B, 1992, P557, 24TH P ANN ACM S THE
AWERBUCH B, 1993, P164, 25TH P ANN ACM S THE
AWERBUCH B, 1992, P83, 3RD P SCAND WORKSH A
AWERBUCH B, 1989, 30TH P IEEE S F COMP
AWERBUCH B, 1990, P503, 31ST IEEE S F COMP S
AWERBUCH B, 1990, P514, 31ST P IEEE S F COMP
BARNOY A, 1993, V39, P1877, IEEE T INFORM THEORY
BARNOY A, 1994, JUN P IEE INFOCOM TO
BARTAL Y, 1992, P39, 24TH P ACM S THEOR C
BARTAL Y, 1992, 33RD P IEEE S F COMP
CHANDY KM, 1985, V3, P63, ACM T COMPUT SYST
CIDON I, 1988, P75, 7TH P ANN ACM S PRIN
FINN SG, 1979, V27, P840, IEEE T COMMUN
GALLAGER RG, 1983, V5, P66, ACM T PROGR LANG SYS
KRANAKIS E, 1988, V319, P361, LECTURE NOTES COMPUT
LAMPORT L, 1978, V21, P558, COMMUN ACM
LANTZ KA, 1985, P250, 4TH P ANN ACM S PRIN
LINIAL N, 1991, P320, 2ND P ANN ACM SIAM S
MANASSE M, 1988, P322, 20TH P ACM STOC
MCQUILLAN JM, 1980, V28, P711, IEEE T COMMUN
MULLENDER SJ, 1988, V3, P367, ALGORITHMICA
PELEG D, 1989, CS8901 WEIZM I DEP A
PELEG D, 1989, CS8910 WEIZM I DEP A
PELEG D, 1989, V36, P510, J ASSOC COMPUT MACH
PELEG D, 1989, V13, P99, J GRAPH THEOR
PELEG D, 1989, V18, P740, SIAM J COMPUT

13/5/23 (Item 2 from file: 34)

00506024 Genuine Article#: DX682 Number of References: 34

Title: MAXIMIZING THE PREDICTIVE VALUE OF PRODUCTION RULES

Author(s): WEISS SM; GALEN RS; TADEPALLI PV
Corporate Source: RUTGERS STATE UNIV,HILL CTR MATH SCI,DEPT COMP SCI,BUSCH CAMPUS/NEW BRUNSWICK//NJ/08903; CASE WESTERN RESERVE UNIV,DEPT EPIDEMIOL & BIOSTAT/CLEVELAND//OH/44106

Journal: ARTIFICIAL INTELLIGENCE, 1990, V45, N1-2, P47-71
Language: ENGLISH Document Type: ARTICLE
Geographic Location: USA
Subfile: SocSearch; SciSearch; Scisearch; CC ENGI--Current Contents, Engineering, Technology & Applied Sciences; CC SOCS--Current Contents, Social & Behavioral Sciences
Journal Subject Category: COMPUTER APPLICATIONS & CYBERNETICS; ERGONOMICS
Research Fronts: 88-3148 004 (PARTIAL LEAST-SQUARES REGRESSION; ERROR RATE FOR LINEAR DISCRIMINANT FUNCTIONS; **TREE** -STRUCTURED **CLASSIFICATION** ; INDIVIDUAL **CRITERIA**)
88-1002 001 (QUANTUM CHAOS; SEMICLASSICAL WAVE **PACKET** DYNAMICS; GENERALIZED ALGEBRAIC QUANTIZATION; STATISTICAL PROPERTIES OF ENERGY-**LEVELS**)
88-1164 001 (COGNITIVE ENGINEERING; INTELLIGENT HELP; DISCOURSE ANALYSIS OF HUMAN INFORMATION INTERACTION; MACHINE LEARNING)
88-1492 001 (OBJECT RECOGNITION TASKS; REGION **CLASSIFICATION** ; TEXTURE MODELS; SHAPE PERCEPTION; PRIMITIVE SURFACES)
88-4920 001 (IMAGE SEGMENTATION; STATISTICAL PATTERN- **CLASSIFICATION** ; SURFACE RECONSTRUCTION; DECISION **RULES** ; UNIFIED FRAMEWORK)
88-5357 001 (GROUPS IN A DATA SET; LINEAR DISCRIMINANT **CLASSIFICATION** ; MULTIPLE DEGREE OF FREEDOM OBJECT RECOGNITION USING OPTICAL RELATIONAL GRAPH DECISION NETS)

Cited References:

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Set     Items   Description
S1      53041   DATAPACKET? OR BINARY()STRING? OR PACKET? OR DATAGRAM? OR -
             DATA()(BUNDLE? OR BLOCK?)
S2     618790   IDENTIF? OR CLASSIF? OR INDEX? OR SORT OR SORTING OR SORTED
              OR SORTER OR DEMULTIPLEX?
S3      45940   TREE OR DIRECTORY OR DIRECTORIES OR TREES OR DECISIONTREE?
             OR BTREE
S4     590292   CRITERIA? OR RULE? OR FACTOR? OR FILTER?
S5     748486   LEVEL? OR TIER? OR BRANCH? OR CHILD? OR NODE? OR LEAF?
S6     534976   EXTERNAL()INFORMATION? OR ORIGINAT? OR SOURCE? OR HEADER? -
             OR DATA()(TYPE? OR FORMAT?)
S7        239   S1(10N)S2(10N)S3
S8         35   S4(S)S7
S9         72   S5(10N)S7
S10        49   S6(10N)S7
S11         7   (S9 OR S10) AND IC=G06F-015?
S12        19   (S9 OR S10) AND IC=H04L-029?
S13        26   S11 OR S12
S14        26   IDPAT (sorted in duplicate/non-duplicate order)
S15        26   IDPAT (primary/non-duplicate records only)
File 348:EUROPEAN PATENTS 1978-2003/Jun W01
         (c) 2003 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20030605,UT=20030529
         (c) 2003 WIPO/Univentio
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15/5,K/3 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01311092
Route lookup engine
Wege-Nachschlage-Motor
Moteur de recherche dans une table de routage
PATENT ASSIGNEE:
ASCEND COMMUNICATIONS, INC., (1470333), One Ascend Plaza, 1701 Harbor Bay Parkway, Alameda, CA 94502, (US), (Applicant designated States: all)
INVENTOR:
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Cherian, Sanjay G., 6 Maxwell Drive, Brookline, New Hampshire 03033, (US)
LEGAL REPRESENTATIVE:
Watts, Christopher Malcolm Kelway, Dr. (37391), Lucent Technologies (UK) Ltd, 5 Mornington Road, Woodford Green Essex, IG8 0TU, (GB)
PATENT (CC, No, Kind, Date): EP 1122927 A2 010808 (Basic)
APPLICATION (CC, No, Date): EP 2000310758 001204;
PRIORITY (CC, No, Date): US 459441 991213
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: **H04L-029/06** ; G06F-017/30; H04L-012/56; H04Q-011/04

ABSTRACT EP 1122927 A2
A Route Lookup Engine (RLE) for determining a next hop index is disclosed. The RLE receives a lookup key and performs a multi-bit trie search with prefix expansion and capture of a variable stride trie. The data that the RLE returns comprises the next hop information and status flags. The RLE uses a compact, field reusable data structure. The RLE performs both unicast and multicast IP address lookups on Virtual Private Networks. The RLE uses separate indexing and forwarding memories. The upper bound of the search time for the RLE is fixed regardless of the route table size.
ABSTRACT WORD COUNT: 99
NOTE:
Figure number on first page: 3

LEGAL STATUS (Type, Pub Date, Kind, Text):
Application: 010808 A2 Published application without search report
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200132	908
SPEC A	(English)	200132	3089
Total word count - document A			3997
Total word count - document B			0
Total word count - documents A + B			3997

INTERNATIONAL PATENT CLASS: **H04L-029/06** ...

...SPECIFICATION RLE search is first performed on the IP destination address and subsequently on the IP **source** address if the **packet** is a multicast **packet** . The search utilizes a multi-bit **tree** search with prefix expansion and capture. The search terminates when a next-hop **index** is found or the end of the key is reached. Hardware error checking terminates the...

15/5,K/10 (Item 10 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00591845
Packet communications network
Paketkommunikationsnetzwerk
Reseau de communication de paquets
PATENT ASSIGNEE:
Hughes Electronics Corporation, (2464050), 200 N. Sepulveda Boulevard, El Segundo, California 90245-0956, (US), (Proprietor designated states: all)
INVENTOR:
Vardakas, George M., 1097 Peutz Valley Road, Alpine, California 91901, (US)
Erickson, Jason C., 1615 Neptune Avenue, Encinatas, California 92024, (US)
LEGAL REPRESENTATIVE:
Grunecker, Kinkeldey, Stockmair & Schwanhausser Anwaltssozietat (100721), Maximilianstrasse 58, 80538 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 590464 A2 940406 (Basic)
EP 590464 A3 950524
EP 590464 B1 991020
APPLICATION (CC, No, Date): EP 93115118 930920;
PRIORITY (CC, No, Date): US 950260 920924
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: **H04L-029/06** ; H04L-012/56
CITED PATENTS (EP B): GB 2248368 A; US 5113499 A

ABSTRACT EP 590464 A2
A method for routing data through a packet communications network (100) including the steps of generating a concatenated data packet containing a plurality of messages for transmission to a plurality of radios (134) in the network (100), appending a first set of assignment commands and destination codes to the concatenated data packet, and transmitting the concatenated data packet to a first set of radios (134A) of the plurality of radios (134) in a single transmission. The method further includes the steps of extracting messages from the concatenated data packet for the first set of radios (134A), appending a second set of assignment commands and destination codes to the concatenated data packet, and relaying the concatenated data packet to a second set of radios (134B) of the plurality of radios (134) in a single transmission. In a preferred embodiment, the adaptive protocol for packet communications network (100) of the present invention forms the concatenated data packet in a headend radio (118). The data packet includes the set of codes for the first set of radios (134A) directly communicating with the headend radio (118) . The data packet is transmitted to the first set of radios (134A) in a single transmission during each frame. Messages having a destination code for a radio of the first set of radios (134A) are extracted and sent to a host device serving the first set of radios (134A). The data packet is reformatted to include the second set of codes and is retransmitted to the second set of radios (134B) in a single transmission. (see image in original document)
ABSTRACT WORD COUNT: 265
NOTE:
Figure number on first page: 1

LEGAL STATUS (Type, Pub Date, Kind, Text):
Oppn None: 001004 B1 No opposition filed: 20000721
Application: 940406 A2 Published application (A1with Search Report ;A2without Search Report)
Search Report: 950524 A3 Separate publication of the European or International search report
Examination: 960110 A2 Date of filing of request for examination: 951117
Examination: 970702 A2 Date of despatch of first examination report: 970520
*Assignee: 981028 A2 Applicant (transfer of rights) (change): HE

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*Assignee:	981028 A2	Previous applicant in case of transfer of rights (change): Hughes Aircraft Company (214913) 7200 Hughes Terrace P.O. Box 45066 Los Angeles, California 90045-0066 (US) (applicant designated states: DE;FR;GB)
*Assignee:	981104 A2	Applicant (transfer of rights) (change): Hughes Electronics Corporation (2464050) 200N. Sepulveda Boulevard El Segundo, California 90245-0956 (US) (applicant designated states: DE;FR;GB)
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Change:	981111 A2	Title of invention (German) (change)
Change:	981111 A2	Title of invention (English) (change)
Change:	981111 A2	Title of invention (French) (change)
Grant:	991020 B1	Granted patent

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9942	258
CLAIMS B	(German)	9942	255
CLAIMS B	(French)	9942	334
SPEC B	(English)	9942	6414
Total word count - document A			0
Total word count - document B			7261
Total word count - documents A + B			7261

INTERNATIONAL PATENT CLASS: **H04L-029/06** ...

...SPECIFICATION packet routing are known in the art. According to one method, the address in the **header** of the data **packet** is used as an **index** to a **directory** of **packet** routing lists. **Packet** routing lists must be prepared with knowledge about the location of each radio in the network. Each radio is **identified** by a **header** code or bit and a packet routing list consists of an ordered list of radio...

15/5,K/12 **(Item 12 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS

00209414
Message transmission network.
Nachrichtenubertragungsnetzwerk.
Reseau de transmission de messages.
PATENT ASSIGNEE:
Teradata Corporation, (479110), 100 North Sepulveda Boulevard, El Segundo California 90245, (US), (applicant designated states: BE;CH;DE;FR;GB;LI;NL)
INVENTOR:
Neches, Philip Malcolm, 2075 Lambert Drive, Pasadena California 91107, (US)
LEGAL REPRESENTATIVE:
Sturt, Clifford Mark et al (50501), MARKS & CLERK 57-60 Lincoln's Inn Fields, London WC2A 3LS, (GB)
PATENT (CC, No, Kind, Date): EP 233993 A2 870902 (Basic)
EP 233993 A3 880113
EP 233993 B1 910828
APPLICATION (CC, No, Date): EP 86114191 820401;
PRIORITY (CC, No, Date): US 250094 810401
DESIGNATED STATES: BE; CH; DE; FR; GB; LI; NL
RELATED PARENT NUMBER(S) - PN (AN):
EP 70083
INTERNATIONAL PATENT CLASS: **G06F-015/16** ; **G06F-015/40** ; G06F-011/20
CITED PATENTS (EP A): US 4251879 A; EP 29502 A
CITED REFERENCES (EP A):
FTCS-8, THE 8th ANNUAL INTERNATIONAL CONFERENCE ON FAULT-TOLERANT COMPUTING, Toulouse, 21st-23rd June 1973, pages 117-122, IEEE, New York, US; D. POWELL et al.: "RHEA: A system for reliable and survivable interconnection of real-time processing elements"
Idem
IBM TECHNICAL DISCLOSURE BULLETIN, vol. 22, no. 12, May 1980, pages 5450-5452, New York, US; F. CLOSS et al.: "Distributed star network with unrooted tree topology";

ABSTRACT EP 233993 A2
The present invention provides a message transmission network having a plurality of terminals for coupling to different data processing systems or devices that are to intercommunicate in arbitrary combinations. The network comprises a plurality of signal transmission means extending between the terminals, each said transmission means comprising a plurality of bidirectional message switching nodes (54) serially intercoupled by transmission links. The message switching nodes are intercoupled in a converging configuration from the terminals, meeting at a common recirculation node (54a), and include means for returning the message from any terminal via the common recirculation node to all the terminals in the diverging direction.
ABSTRACT WORD COUNT: 107

LEGAL STATUS (Type, Pub Date, Kind, Text):
Application: 870902 A2 Published application (A1with Search Report ;A2without Search Report)
Examination: 870902 A2 Date of filing of request for examination: 861020
Change: 880107 A2 Obligatory supplementary classification (change)
Search Report: 880113 A3 Separate publication of the European or International search report
Examination: 900221 A2 Date of despatch of first examination report: 890105
*Assignee: 910508 A2 Applicant (name, address) (change)
Grant: 910828 B1 Granted patent
Oppn None: 920819 B1 No opposition filed
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	335
CLAIMS B	(German)	EPBBF1	324
CLAIMS B	(French)	EPBBF1	395
SPEC B	(English)	EPBBF1	27132
Total word count - document A			0
Total word count - document B			28186
Total word count - documents A + B			28186

INTERNATIONAL PATENT CLASS: **G06F-015/16** ...

... **G06F-015/40**

...SPECIFICATION a diagram of messages stored in the high speed random access memory; and

Fig. 22 **is** a simplified diagram of one way in which parts of a data base may be distributed among different processes **in** a data base **system** .

The systems and methods described below utilize a novel architecture and **organization** in which multiple processors **are** intercoupled by an active bidirectional network. The bidirectional network is arranged in a hierarchy of...

...having priority. Tasks to be performed by the individual processors are accepted and responsive message **packets** are returned, again via the bidirectional network.

The network serves in one direction as a high speed decision making **tree** whose active circuit **nodes** function in the time and space domains to make a prioritized **sort** . Priority between contending message **packets** is determined in accordance with predetermined rules and based upon the data content in the...can be launched concurrently into the active logic network 50 on the couplings for many **of** the microprocessors. The active logic **nodes** 54 each **function** in binary **fashion** in determining priority between two colliding **packets** , using the data contents of the **message** **packets** themselves. Further, all **nodes** 54 in a network ...bytes of other messages also advance along other paths in the network 50.

A prioritized **sort** of competing signal trains takes place for message **packets** moving up- **tree** , ultimately to select a single message train to be redirected from the apex **node** 54a downstream. Because of the system organization, the decision as to ultimate priority need not..

15/5,K/13 (Item 13 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

01004277 **Image available**
DYNAMIC CONTENT BASED MULTICAST ROUTING IN MOBILE NETWORKS
ROUTAGE MULTIDIFFUSION BASE SUR UN CONTENU DYNAMIQUE POUR RESEAUX MOBILES
Patent Applicant/Assignee:
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Inventor(s):
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Legal Representative:
CAREY Scott M (et al) (agent), Hale and Dorr LLP., 300 Park Avenue, New-York, NY 10022-7402, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200334255 A1 20030424 (WO 0334255)
Application: WO 2002US32828 20021015 (PCT/WO US0232828)
Priority Application: US 2001329485 20011015
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **G06F-015/16**
International Patent Class: **G06F-015/173**
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 8845

English Abstract
The present invention changes the wireless information service paradigm from a connection-oriented unicast network model to a dynamic content-driven multicast model using a technique called "content routing." The present invention provides a system, method, and medium for routing content (105) through a network from at least one content provider (100) to at least one content consumer (150), wherein at least one of the content consumer (150) or content provider (100) communicate with the network using a wireless device. The content is routed though the network based on its content. The content is labeled with at least one content descriptor (110). The content descriptor (110) characterizes or otherwise describes the content (105). Interest profiles (125) are received from content consumers (150). Interest profiles (125) from content consumers (150) with a common network access point are aggregated into a single interest profile. Interest profiles (125) can include more than the wireless consumers stated interest, such as for example, a content consumer's geographic location, the capabilities of the wireless terminal, type of service, policy preferences, and the like. Single interest profiles are shared across neighboring network access points to create a content routing table. Content, labeled with at least one descriptor, is routed through the network (140) to content consumers (150) based, in part, on content routing tables created from wireless content consumers' profiles.

French Abstract
La presente invention permet de changer un paradigme de service d'informations sans fil a partir d'un modele de reseau unidiffusion oriente connexion en un modele de multidiffusion commande par contenu dynamique au moyen d'une technique appelee "routage de contenu". La

presente invention concerne un systeme, un procede et un support destines au routage d'un contenu (105) par l'intermediaire d'un reseau entre au moins un fournisseur de contenu (100) et au moins un consommateur de contenu (150), le consommateur de contenu (150) et/ou le fournisseur de contenu (100) communiquant avec le reseau au moyen d'un dispositif sans fil. Ce contenu est achemine par l'intermediaire du reseau sur la base de son contenu. Ledit contenu est etiquete au moyen d'au moins un descripteur de contenu (110), lequel caracterise ou decrit le contenu (105). Des profils d'interet (125) sont recus en provenance des consommateurs de contenu (150). Les profils d'interet (125) en provenance des consommateurs de contenu (150) presentant un point d'acces reseau commun sont rassembles en un profil d'interet unique. Les profils d'interet (125) peuvent comprendre davantage d'informations que celles pour lesquelles les consommateurs sans fil ont manifeste un interet, et notamment l'emplacement geographique d'un consommateur de contenu, les capacites du terminal sans fil, le type de service, les preferences de regles, etc. Les profils d'interet uniques sont partages entre les points d'acces reseau, d'ou la creation d'une table de routage de contenu. Le contenu etiquete avec au moins un descripteur est achemine par l'intermediaire du reseau (140) en direction des consommateurs de contenu (150), en partie sur la base des tables de routage de contenu creees a partir des profils de consommateurs de contenu sans fil.

Legal Status (Type, Date, Text)
Publication 20030424 A1 With international search report.
Publication 20030424 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Main International Patent Class: **G06F-015/16**
International Patent Class: **G06F-015/173**
Fulltext Availability:
Detailed Description

Detailed Description

... The routing decision of the present invention can be viewed as trying to map a **tree** (content descriptor) onto another (profile). Only if the mapping succeeds will the **packet** be forwarded on the port associated with the profile **tree** . The size of the **trees** are application specific. Generally, the content descriptor (CD), which is part of each **packet** , will not exceed a few hundred **nodes** . Most **classification** engines use less than 10,000 concepts arranged in fairly well balanced **trees** . Similar observations on size and structure are seen for various XML documents.

The mapping scales...

15/5,K/17 (Item 17 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00960339 **Image available**
SYSTEM AND METHODS FOR PROVIDING DIFFERENTIATED SERVICES WITHIN A NETWORK COMMUNICATION SYSTEM
SYSTEMES ET PROCEDES DE FOURNITURE DE SERVICE DIFFERENCIE AU SEIN D'UN SYSTEME DE COMMUNICATION PAR RESEAU
Patent Applicant/Assignee:
BYTEMOBILE INC, 2029 Stierlin Court, Mountain View, CA 94043, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
CRAIG David, 1195 Boynton Avenue, San Jose, CA 95117, US, US (Residence), US (Nationality), (Designated only for: US)
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HAN Sung-Wook, 1195 Boynton Avenue, San Jose, CA 95117, US, US (Residence), KR (Nationality), (Designated only for: US)
Legal Representative:
SIMONS Kevin J (agent), Wilson Sonsini Goodrich & Rosati, 650 Page Mill Road, Palo Alto, CA 94304-1050, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200293832 A2-A3 20021121 (WO 0293832)
Application: WO 2002US15565 20020515 (PCT/WO US0215565)
Priority Application: US 2001291918 20010516; US 2001309213 20010731; US 2002126131 20020419
Parent Application/Grant:
Related by Continuation to: US 2001291918 20010516 (CIP); US 2001309213 20010731 (CIP); US 2002126131 20020419
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **H04L-029/06**
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 18706

English Abstract
A service module incorporated within the network infrastructure intercepts packets communicated between a client and a server to determine whether the connection corresponds to one of a plurality of service applications that may supported by the service module. If so, the service module breaks the connection by terminating the connection with the client at the service module and opening a separate connection between the service module and the server. The service application may then perform application-specific process of the data communicated between the client and sever. In order to increase processing efficiency associated with classifying the connection between the client and the server, the service module stores classification rules in a plurality of hashing tables, with hash conflicts arranged as an m-ary tree structure. This arrangement enables the service module to efficiently search for classification rules and resolve hash conflicts without imposing a significant processing penalty.

French Abstract
Un module de service integre a une infrastructure de reseau intercepte des paquets qui transitent entre un client et un serveur de maniere a determiner si la connexion correspond a l'une des applications d'un ensemble d'applications de service qui peuvent etre gerees par le module

de service. Lorsque tel est le cas, le module de service rompt la connexion en mettant fin de son cote a cette connexion avec le client et en etablissant une connexion separee entre le module de service et le serveur. L'application de service peut ensuite mettre en oeuvre un traitement des donnees, specifique de l'application, qui transite entre le client et le serveur. De maniere a accroitre l'efficacite du traitement associe a un classement de la connexion entre le client et le serveur, le module de service enregistre des regles de classification dans une pluralite de tables de hachage, les conflits au hachage etant geres comme une structure arborescente de base m. Cet agencement permet au module de service de rechercher efficacement des regles de classification et de resoudre des conflits de hachage sans penaliser de maniere significative le traitement.

Legal Status (Type, Date, Text)
Publication 20021121 A2 Without international search report and to be republished upon receipt of that report.
Examination 20030220 Request for preliminary examination prior to end of 19th month from priority date
Search Rpt 20030501 Late publication of international search report
Republication 20030501 A3 With international search report.
Republication 20030501 A3 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Main International Patent Class: **H04L-029/06**
Fulltext Availability:
Detailed Description

Detailed Description
... m-ary tree
structures. For example, the next memory pool field 840 may cause the **classifier** to switch to a different hashing table in the event a **packet header** does
38
not match a **classification** rule stored at a particular hash entry or a pointer in an m-ary **tree** structure comprises a null pointer. In this context, the next memory pool field 840 may...

15/5,K/20 (Item 20 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00881368 **Image available**

PACKET SCHEDULING METHODS AND APPARATUS

PROCEDES ET DISPOSITIFS POUR L'ORDONNANCEMENT DE PAQUETS

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WESTFALL Ronald Leonard, 1906 Whitman Avenue, North Vancouver, British Columbia V7H 2C2, CA,
Legal Representative:
MANNING Gavin N (agent), Oyen Wiggs Green & Mutala, 480 - 601 West Cordova Street, Vancouver, British Columbia V6B 1G1, CA,

Patent and Priority Information (Country, Number, Date):
Patent: WO 200215520 A1 20020221 (WO 0215520)
Application: WO 2000CA937 20000817 (PCT/WO CA0000937)
Priority Application: WO 2000CA937 20000817
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **H04L-029/06**
International Patent Class: H04L-012/56
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 12281

English Abstract
Providing different levels of quality of service for different data flows being transported over a data link requires a very fast way to schedule individual packets for forwarding on the data link. The invention provides scheduling methods which give preference to higher priority packets while treating lower priority packets fairly. The methods can provide shorter latencies for higher priority packets than can many prior scheduling methods. The methods and apparatus of the invention are readily adaptable for use with scheduling rules provided in the form of hierarchical policy trees.

French Abstract
L'invention concerne l'ordonnancement de paquets individuels, necessairement tres rapide, sur une liaison de donnees, qui permet d'assurer differents niveaux de qualite de service correspondant a differents flux de transport sur la liaison. L'invention concerne des procedes d'ordonnancement qui consistent a donner la preference a des paquets ayant un rang de priorite superieur, en traitant de facon equitable les paquets ayant un rang de priorite inferieur. Les procedes decrits peuvent consister a prevoir des temps de latence plus courts pour les paquets ayant un rang de priorite superieur, par rapport a beaucoup de procedes d'ordonnancement existants. Les procedes et les dispositifs decrits sont facilement adaptables aux regles d'ordonnancement etablies sous la forme d'arbres de strategie hierarchiques.

Legal Status (Type, Date, Text)
Publication 20020221 A1 With international search report.

Examination 20020523 Request for preliminary examination prior to end of 19th month from priority date

Main International Patent Class: **H04L-029/06**
Fulltext Availability:
Detailed Description

Detailed Description
... a combination of these measures or any equivalent measure.

In preferred embodiments of the invention, **packets** are **classified** and inserted into a scheduler which has a structure mirroring that of the policy **tree** . The **packets** enter the scheduler at a **leaf node** corresponding to the class. From there, the **packets** "percolate" from **node** to **node** up through the scheduler, until they reach a **node** corresponding to the root **node** of the policy **tree** . From there, the **packets** are sent out on the data link.

After a **packet** has been **classified** then the **classification** information for the packet is forwarded to a scheduler 50 (Fig. 5). Scheduler 50 schedules...

15/5,K/19 (Item 19 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00881369 **Image available**

METHODS AND APPARATUS FOR PACKET CLASSIFICATION WITH MULTI-LEVEL DATA STRUCTURE

PROCEDES ET APPAREILS DESTINES A UNE CLASSIFICATION DE PAQUETS AU MOYEN D'UNE STRUCTURE DE DONNEES MULTI-NIVEAU

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Legal Representative:
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Patent and Priority Information (Country, Number, Date):
Patent: WO 200215521 A1 20020221 (WO 0215521)
Application: WO 2000CA939 20000817 (PCT/WO CA0000939)
Priority Application: WO 2000CA939 20000817
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **H04L-029/06**
International Patent Class: H04L-012/56
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 11012

English Abstract
Providing different levels of quality of service for different data flows being transported over a data link requires a very fast way to classify individual packets. Providing meaningful classification generally requires classifying data packets in several dimensions. A classification method represents a rule base as a hierarchy of linked tables and sequentially matches each parameter value in a packet signature against tables in the hierarchy. The method supports longest prefix matching and avoids time consuming backtracking by adding rules to the rule base.

French Abstract
Selon l'invention, il est necessaire, en vue de mettre en place plusieurs niveaux de qualite de services pour plusieurs flux de donnees etant transportes sur une liaison de donnees, d'etablir un moyen rapide permettant de classifier des paquets individuels. L'etablissement d'une classification efficace necessite, en general, une classification de paquets de donnees dans plusieurs dimensions. Un procede de classification represente une base de regles, comme une hierarchie de tables reliees, et correspond, de maniere sequentielle, a chaque valeur de parametre dans une signature de paquet par rapport a des tables dans la hierarchie. Le procede supporte une correspondance de prefixes plus longue et evite, par l'ajout de regles a la base de regles, un retour en arriere chronophage.

Legal Status (Type, Date, Text)

Publication 20020221 A1 With international search report.
Main International Patent Class: **H04L-029/06**
Fulltext Availability:
Detailed Description

Detailed Description
... ESP 24 may be holding zero, one, or more packets belonging to each class. The **packets** in a class may belong to zero, one, or more flows. Non
leaf **nodes** of policy **tree** 39 may also be called "classes" although the
classes into which **packets** are initially **classified** correspond to **leaf** classes of policy **tree** 39.

In the example of Figure 4, a class 40 contains voice traffic.

Class 40...

15/5,K/22 (Item 22 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00785471 **Image available**
APPARATUS AND METHOD FOR PACKET SCHEDULING
DISPOSITIF ET PROCEDE DE PROGRAMMATION DE PAQUETS
Patent Applicant/Assignee:
AVICI SYSTEMS, 101 Billerica Avenue, Bldg. #6, North Billerica, MA 01862-1256, US, US (Residence), US (Nationality)
Inventor(s):
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BELIVEAU Paul A, 5 Garrison Road, Arlington, MA 02474, US,
MANN William F, 23 Checkerberry Circle, Sudbury, MA 01776, US,
DENNISON Larry R, 505 Nathan Street, Norwood, MA 02062, US,
Legal Representative:
SMITH James M (et al) (agent), Hamilton, Brook, Smith & Reynolds, P.C., 530 Virginia Road, P.O. Box 9133, Concord, MA 01742-9133, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200119028 A2-A3 20010315 (WO 0119028)
Application: WO 2000US40835 20000906 (PCT/WO US0040835)
Priority Application: US 99153148 19990909; US 2000588619 20000606
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **H04L-029/06**
International Patent Class: H04L-012/56
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 13219

English Abstract
In a network router, a **tree** structure or a **sorting** network is used to compare scheduling values and select a **packet** to be forwarded from an appropriate queue. In the **tree** structure, each **leaf** represents the scheduling value of a queue and internal nodes of the structure represent winners in comparisons of scheduling values of sibling nodes of the tree structure. CBR scheduling values may first be compared to select a queue and, if transmission from a CBR queue is not timely, a packet may be selected using WFQ scheduling values. The scheduling values are updated to reflect variable packet lengths and byte stuffing in the prior packet. Scheduling may be performed in multiple stages.

French Abstract
Dans un routeur de reseaux, une structure arborescente ou un reseau de tri sert a comparer des valeurs d'ordonnancement et a choisir dans une liste d'attente appropriee un paquet a expedier. Dans cette structure arborescente, chacune des feuilles represente la valeur d'ordonnancement d'une file d'attente, cependant que les noeuds internes de la structure representent des gagnants par comparaison avec les valeurs d'ordonnancement de noeuds apparentes dans ladite structure. Pour le choix d'une file d'attente, on peut tout d'abord comparer des valeurs d'ordonnancement a debit binaire constant et, si la transmission a partir de la file d'attente a debit binaire constant ne se fait pas en temps voulu, on peut selectionner un paquet au moyen de valeurs d'ordonnancement pour file d'attente equitable ponderee (Weighted Fair Queueing/ WFQ). Les valeurs d'ordonnancement sont mises a jour de maniere a rendre compte de la longueur variable des paquets et du bourrage d'octets dans le paquet precedent. L'ordonnancement peut avoir lieu a de

multiples stades.

Legal Status (Type, Date, Text)
Publication 20010315 A2 Without international search report and to be republished upon receipt of that report.
Examination 20010531 Request for preliminary examination prior to end of 19th month from priority date
Search Rpt 20020103 Late publication of international search report
Republication 20020103 A3 With international search report.

Main International Patent Class: **H04L-029/06**

English Abstract
In a network router, a **tree** structure or a **sorting** network is used to compare scheduling values and select a **packet** to be forwarded from an appropriate queue. In the **tree** structure, each **leaf** represents the scheduling value of a queue and internal nodes of the structure represent winners...

15/5,K/21 (Item 21 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00881340 **Image available**

METHODS AND APPARATUS FOR PACKET CLASSIFICATION WITH MULTIPLE ANSWER SETS
PROCEDES ET SYSTEME DE CLASSEMENT PAR PAQUETS COMPORTANT DE MULTIPLES ENSEMBLES DE REPONSES

Patent Applicant/Assignee:
ABATIS SYSTEMS CORPORATION, 200 - 4190 Still Creek Drive, Burnaby, British Columbia V5C 6C6, CA, CA (Residence), CA (Nationality)
Inventor(s):
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NG Thomas W, #75 - 11571 Thorpe Road, Richmond, British Columbia V6X 1J5, CA,
TERRY Paul, 1561 Topaz Court, Coquitlam, British Columbia V3E 2Z9, CA,
LEE Henry, 1506 Eagle Mountain Drive, Coquitlam, British Columbia V3E 2Y6, CA,
Legal Representative:
MANNING Gavin N (agent), Oyen Wiggs Green & Mutala, 480 - 601 West Cordova Street, Vancouver, British Columbia V6B 1G1, CA,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200215488 A1 20020221 (WO 0215488)
Application: WO 2000CA940 20000817 (PCT/WO CA0000940)
Priority Application: WO 2000CA940 20000817
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: H04L-012/56
International Patent Class: **H04L-029/06**
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 13461

English Abstract
Providing different levels of quality of service for different data flows being transported over a data link requires a very fast way to classify individual packets. Providing meaningful classification generally requires classifying data packets in several dimensions. A classification method processes multiple parameter values for a packet in parallel to obtain answer sets indicating which rules are matched by each parameter value. Answer indexes identify logical blocks in each answer set which contain TRUE values. The method performs an AND operation on the answer indexes to identify those blocks in the answer sets which could contain bits corresponding to matched rules. An AND operation is performed on the identified blocks to identify the particular rule matched by the packet. The classification method allows extremely fast wire speed packet classification.

French Abstract
Selon l'invention, la fourniture de differents niveaux de qualite de service pour differents flux de donnees transportes dans une liaison de donnees exige l'utilisation d'un moyen tres rapide de classement des paquets individuels. L'etablissement d'un classement pertinent requiert generalement d'ordonner les paquets de donnees selon plusieurs dimensions. Une methode de classement traite en parallele de multiples valeurs parametriques pour un paquet afin d'obtenir des ensembles de reponses indiquant quelles regles sont assorties a chaque valeur parametrique. Des indices de reponse identifient des blocs logiques dans chaque ensemble de reponses contenant des valeurs VRAIES. La methode

effectue une operation ET sur les indices de reponse afin d'identifier, dans les ensembles de reponses, ceux des blocs qui pourraient contenir des bits correspondant a des regles assorties. Une operation ET est effectuee sur les blocs identifies pour identifier la regle particuliere correspondant au paquet. La methode de l'invention permet d'obtenir un classement par paquet extrememement rapide.

Legal Status (Type, Date, Text)
Publication 20020221 A1 With international search report.

International Patent Class: **H04L-029/06**
Fulltext Availability:
Detailed Description

Detailed Description
... ESP 24 may be holding zero, one, or more packets belonging to each class. The **packets** in a class may belong to zero, one, or more flows. Non
leaf **nodes** of policy **tree** 39 may also be called "classes" although the
classes into which **packets** are initially **classified** correspond to **leaf** classes of policy **tree** 39.
In the example of Figure 4, a class 40 contains voice traffic. Class 40...memory accesses to obtain pointer to a
desired answer set (or an indication that the **packet** being **classified** must belong to a default class).

Example
Suppose that we wish to provide a three- **level** **tree** , as described above to locate answer sets for a rule base having the following rules... includes the condition src=*) then there will be no null entries in any tables in **tree** 300.

In this example there is only one second **level** table 306. If the data **packet** being **classified** has a **source** IP address which begins with the
prefix 197.123 then it is necessary to search...

15/5,K/25 (Item 25 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00230187 **Image available**

INPUT/OUTPUT ARRANGEMENT FOR MASSIVELY PARALLEL COMPUTER SYSTEM
DISPOSITIF D'ENTREE ET DE SORTIE POUR SYSTEME ORDINATEUR MASSIVEMENT PARALLELE

Patent Applicant/Assignee:
THINKING MACHINES CORPORATION,
Inventor(s):
WELLS David S,
ROWE Eric L,
ISMAN Marshall,

Patent and Priority Information (Country, Number, Date):
Patent: WO 9304438 A1 19930304
Application: WO 92US6848 19920813 (PCT/WO US9206848)
Priority Application: US 9138 19910816
Designated States: AU CA JP AT BE CH DE DK ES FR GB GR IE IT LU MC NL SE
Main International Patent Class: **G06F-015/80**
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 16978

English Abstract
A computer comprising a plurality of processing elements (11) and an input/output processor (13) interconnected by a routing network (15). The routing network (15) transfers messages between the processing elements (11) and the input/output processor (13). The processing elements (11) perform processing operations in connection with data received from the input/output processor in messages transferred over the routing network and transferring processed data to the input/output processor in messages over the routing network, the processing elements being connected as a first selected series of leaf nodes. The input/output processor includes a plurality of input/output buffers connected as a second selected series of leaf nodes of the routing network for generating messages for transfer over the routing network to a series of processing elements forming at least a selected subset of the processing elements during an input/output operation.

French Abstract
Ordinateur comprenant une pluralite d'elements de traitement (11) et un processeur d'entree et de sortie (13) relies entre eux par un reseau d'acheminement (15). Le reseau d'acheminement (15) transfere des messages entre les elements de traitement (11) et le processeur d'entree et de sortie (13). Les elements de traitement (11) executent des operations de traitement en relation avec des donnees recues provenant du processeur d'entree et de sortie dans des messages transferes par l'intermediaire du reseau d'acheminement, ainsi que le transfert de donnees traitees au processeur d'entree et de sortie dans des messages, par l'intermediaire du reseau d'acheminement, les elements de traitement etant relies en tant qu'une premiere serie selectionnee de noeuds feuilles. Le processeur d'entree et de sortie comprend une pluralite de tampons d'entree et de sortie relies en tant qu'une seconde serie selectionnee de noeuds feuilles du reseau d'acheminement afin de generer des messages destines a etre transferes par l'intermediaire du reseau d'acheminement a une serie d'elements de traitement formant au moins un sous-ensemble selectionne des elements de traitement pendant une operation d'entree/sortie.

Main International Patent Class: **G06F-015/80**
Fulltext Availability:
Detailed Description

Detailed Description
... output processor 13. The message address portion 31 includes a HEADER portion, which contains a **level** identifier, and a series of down path

identifiers DN T (**index** T is an integer from "M" to "I"). The **level identifier** in the HEADER portion **identifies** the lowest **level** in the **tree** that includes both the transmitting device and the intended recipient, and the data router 15 initially couples the input/output message **packet** 2230 from the transmitting device up to that **level** in the **tree** . Ilereafter, the data router uses the successive down path **identifiers** DN T to steer the input/output message **packet** 22.30 down the **tree** to the intended recipient.

The message data portion 32 includes a number of fields, including...

```
S1          2   AU=(SCHALES D? OR SCHALES, D?)
S2          4   AU=(SESHAN S? OR SESHAN, S?)
S3         10   AU=(ZOHAR M? OR ZOHAR, M?)
S4          2   S1 AND S2 AND S3
S5          6   (S1 OR S2 OR S3) AND IC=G06F?
S6          8   S4 OR S5
S7          8   IDPAT (sorted in duplicate/non-duplicate order)
S8          5   IDPAT (primary/non-duplicate records only)
File 344:Chinese Patents Abs Aug 1985-2003/Feb
         (c) 2003 European Patent Office
File 347:JAPIO Oct 1976-2003/Feb(Updated 030603)
         (c) 2003 JPO & JAPIO
File 350:Derwent WPIX 1963-2003/UD,UM &UP=200336
         (c) 2003  Thomson Derwent
File 348:EUROPEAN PATENTS 1978-2003/Jun W01
         (c) 2003 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20030529,UT=20030522
         (c) 2003 WIPO/Univentio
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8/5/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014891997 **Image available**
WPI Acc No: 2002-712703/200277
XRPX Acc No: N02-562229

TCP connection request admittance regulation method for Internet server farm, involves controlling flow of incoming workload from common buffer to multiple servers by regulating flow of request packets to servers

Patent Assignee: IBM CORP (IBMC); INT BUSINESS MACHINES CORP (IBMC)
Inventor: CHAAR J K; CHAN S; GEORGE D A; LORRAIN J A; MARUYAMA K; **ZOHAR M**
Number of Countries: 003 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020124103	A1	20020905	US 2001921989	A	20010220	200277	B
KR 2002068270	A	20020827	KR 20027731	A	20020209	200309	
CN 1376987	A	20021030	CN 2002105058	A	20020211	200314	

Priority Applications (No Type Date): US 2001921989 A 20010220
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020124103	A1		12	G06F-015/16	
KR 2002068270	A			H04L-012/28	
CN 1376987	A			G06F-013/14	

Abstract (Basic): US 20020124103 A1

NOVELTY - Multiple incoming workload (14) for multiple customers and applications are received in a common buffer (28) for first in, first out (FIFO) processing of TCP connection request packets in the workload. The flow of workload from the buffer to multiple servers is controlled by regulating the flow of connection request packets to the servers to provide at least minimum TCP connection rate for each customer and application.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) Method of controlling and guaranteeing service level agreement;

(2) TCP connection request admittance regulating system; and

(3) System of controlling and guaranteeing service level agreement.

USE - For regulating admittance of TCP connection requests to multiple servers such as server farm of application service provider (ASP) that hosts Internet world wide web sites of various owners.

ADVANTAGE - By regulating the flow of TCP connection request packets to the servers in real-time, packet processing delay is minimized and request based service level agreement are guaranteed and delivered to the applications that are serviced by the ASP.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic view of the Internet server farm traffic controlling and managing system.

Incoming workload (14)

Common buffer (28)

pp; 12 DwgNo 1/5

Title Terms: CONNECT; REQUEST; ADMIT; REGULATE; METHOD; SERVE; FARM; CONTROL; FLOW; INCOMING; COMMON; BUFFER; MULTIPLE; SERVE; REGULATE; FLOW; REQUEST; PACKET; SERVE
Derwent Class: T01
International Patent Class (Main): **G06F-013/14** ; **G06F-015/16** ; H04L-012/28
File Segment: EPI

8/5/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014511865 **Image available**
WPI Acc No: 2002-332568/200237
XRPX Acc No: N02-261217

Data packet sorting method in packet communication, involves passing data packets successively to each child node of each tree level until predetermined node criteria are satisfied or not satisfied

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC)
Inventor: **SCHALES D L ; SESHAN S ; ZOHAR M**
Number of Countries: 002 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
GB 2365668	A	20020220	GB 20018676	A	20010406	200237	B
JP 2002271396	A	20020920	JP 2001112676	A	20010411	200277	

Priority Applications (No Type Date): US 2000548141 A 20000413
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2365668	A		28	H04L-012/56	
JP 2002271396	A		13	H04L-012/56	

Abstract (Basic): GB 2365668 A

NOVELTY - The data packets received at the root node of a sorting tree, are successively passed to each child node of the primary level of the tree until the predetermined node criteria of the child node are satisfied. The packets are then successively passed to the secondary level of the tree, when the child node in the secondary level does not satisfy predetermined node criteria.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Data packet sorting apparatus;

(b) Article of manufacture;

(c) Computer program on a computer readable medium for storing data packets sorting program;

(d) Packet disposition apparatus

USE - For sorting delay packets in packet communication.

ADVANTAGE - Extendibility of packet processing is enhanced.

DESCRIPTION OF DRAWING(S) - The figure shows the relationship between protocol layers of the data packet classification method.

pp; 28 DwgNo 1/11

Title Terms: DATA; PACKET; SORT; METHOD; PACKET; COMMUNICATE; PASS; DATA; PACKET; SUCCESSION; CHILD; NODE; TREE; LEVEL; PREDETERMINED; NODE; CRITERIA; SATISFY; SATISFY
Derwent Class: T01; W01
International Patent Class (Main): H04L-012/56
International Patent Class (Additional): H04L-029/06; H04Q-011/04
File Segment: EPI

8/5/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

014141528 **Image available**
WPI Acc No: 2001-625739/200172
XRPX Acc No: N01-466439

Apparatus for application resource sharing using a semiautonomous software application functioning when attached to a host application without control by the host application

Patent Assignee: CYDOOR TECHNOLOGIES LTD (CYDO-N)
Inventor: **ZOHAR M**
Number of Countries: 094 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200163421	A1	20010830	WO 2001IL171	A	20010222	200172	B
AU 200135939	A	20010903	AU 200135939	A	20010222	200202	

Priority Applications (No Type Date): US 2000510488 A 20000223
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200163421	A1	E	32	G06F-013/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA

CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
AU 200135939 A G06F-013/00 Based on patent WO 200163421

Abstract (Basic): WO 200163421 A1
NOVELTY - A user communicates with a host application (18) by manipulating a graphical user interface on an interface (22) using an input device and the operating system (20) sends a message to notify the host application of what has occurred. An application rider (16) is attached to the host application and is invoked by a loader module (12), which identifies activation of the host application, to utilize the user interface with a window (24). An information handling component (32) on a server system (29) has a rider control component (30) to forward requests for specific information units to the handling component, transmitting them using a user profile table (34).
DETAILED DESCRIPTION - AN INDEPENDENT CLAIM is included for a method for sharing application resources by semi-autonomously operating computer programs.
USE - Mutual sharing of a graphical interface.
ADVANTAGE - No requirement for control of software application by master application.
DESCRIPTION OF DRAWING(S) - The drawing is a block diagram of a computer environment
Host application (18)
Interface (22)
Application rider (16)
Loader module (12)
Server system (29)
Handling component (32)
pp; 32 DwgNo 1/5
Title Terms: APPARATUS; APPLY; RESOURCE; SHARE; SOFTWARE; APPLY; FUNCTION; ATTACH; HOST; APPLY; CONTROL; HOST; APPLY
Derwent Class: T01
International Patent Class (Main): **G06F-013/00**
International Patent Class (Additional): **G06F-015/00**
File Segment: EPI

8/5/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013861369
WPI Acc No: 2001-345581/200137
XRPX Acc No: N01-250420
Computer based information brokering system for providing content dynamic information within the context of software applications, includes information request unit and agent in communication with a data provider via a network
Patent Assignee: CYDOOR TECHNOLOGIES LTD (CYDO-N)
Inventor: **ZOHAR M**
Number of Countries: 025 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 1056031	A1	20001129	EP 99109241	A	19990525	200137	B

Priority Applications (No Type Date): EP 99109241 A 19990525
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1056031	A1	E	16	G06F-017/60	

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
Abstract (Basic): EP 1056031 A1
NOVELTY - Information request unit (20) and agent (22) are preferably software applications on computer (10), request unit (20)

invokes a function of agent (22) causing it to request at one or more information units (32) from a set (30), stored on information provider (24). Request unit (20) can then invoke a second function of the agent (22) to cause it to output received information units to output devices (12,14) of computer (10) based on predefined sequencing information.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for an information brokering method.

USE - For use in computer based information systems, in particular, for providing content dynamic information within the context of computer software applications.

ADVANTAGE - The use of the information request unit and agent allows the presentation of content dynamic data such as advertising banners and news headlines, which may change periodically, within the context of non-browser computer software applications.

DESCRIPTION OF DRAWING(S) - The figure is a simplified semi-pictorial semi-block diagram illustration of an information brokering system for providing content-dynamic information within the context of computer software applications.

Computer terminal ((12) Computer display ((14) Speaker ((20) Information request apparatus ((22) Information agent ((24) Information provider ((30) Predefined set of information units ((32) Information unit. (10)

pp; 16 DwgNo 0/5

Title Terms: COMPUTER; BASED; INFORMATION; SYSTEM; CONTENT; DYNAMIC; INFORMATION; CONTEXT; SOFTWARE; APPLY; INFORMATION; REQUEST; UNIT; AGENT; COMMUNICATE; DATA; NETWORK

Derwent Class: T01

International Patent Class (Main): **G06F-017/60**

File Segment: EPI

8/5/5 (Item 5 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

01344918

METHOD AND APPARATUS FOR APPLICATION RESOURCE SHARING

PROCEDE ET APPAREIL DESTINES AU PARTAGE DES RESSOURCES D'APPLICATION

PATENT ASSIGNEE:

CYDOOR TECHNOLOGIES LTD., (2759880), 22 Maskit Street, Herzliya 46733, (IL), (Applicant designated States: all)

INVENTOR:

ZOHAR, Meir , Kochav Hayam Street 24, 42951 Hofit, (IL

PATENT (CC, No, Kind, Date):

WO 2001063421 010830

APPLICATION (CC, No, Date): EP 2001908082 010222; WO 2001IL171 010222

PRIORITY (CC, No, Date): US 510488 000223

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: **G06F-013/00** ; **G06F-015/00**

CITED PATENTS (WO A): US 5844553 A ; US 5961599 A

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	011024	A1 International application. (Art. 158(1))
Application:	011024	A1 International application entering European phase
Application:	030305	A1 International application. (Art. 158(1))
Appl Changed:	030305	A1 International application not entering European phase
Withdrawal:	030305	A1 Date application deemed withdrawn: 20020924

LANGUAGE (Publication,Procedural,Application): English; English; English

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Set     Items   Description
S1      68704   DATAPACKET? OR BINARY()STRING? OR PACKET? OR DATAGRAM? OR -
             DATA()(BUNDLE? OR BLOCK?)
S2     548338   IDENTIF? OR CLASSIF? OR INDEX? OR SORT OR SORTING OR SORTED
              OR SORTER OR DEMULTIPLEX?
S3      51438   TREE OR DIRECTORY OR DIRECTORIES OR TREES OR DECISIONTREE?
             OR BTREE
S4     861622   CRITERIA? OR RULE? OR FACTOR? OR FILTER?
S5    1210124   LEVEL? OR TIER? OR BRANCH? OR CHILD? OR NODE? OR LEAF?
S6    1097132   EXTERNAL()INFORMATION? OR ORIGINAT? OR SOURCE? OR HEADER? -
             OR DATA()(TYPE? OR FORMAT?)
S7         16   S1 AND S2 AND S3 AND S4
S8        178   S1 AND (S2 OR S4) AND S3
S9        150   S8 AND IC=(G06F? OR H04L?)
S10        42   S6 AND S9
S11        39   S1 AND S2 AND S3 AND S6
S12        63   S1 AND S2 AND S3 AND S5
S13        25   S1(5N)S2 AND S12
S14        36   S7 OR S13
S15        37   S10 AND (S11 OR S12)
S16        19   S10 AND S11 AND S12
S17        42   S14 OR S16
S18        37   S17 AND IC=(G06F? OR H04L?)
S19        37   IDPAT (sorted in duplicate/non-duplicate order)
S20        35   IDPAT (primary/non-duplicate records only)
File 344:Chinese Patents Abs Aug 1985-2003/Mar
         (c) 2003 European Patent Office
File 347:JAPIO Oct 1976-2003/Feb(Updated 030603)
         (c) 2003 JPO & JAPIO
File 350:Derwent WPIX 1963-2003/UD,UM &UP=200336
         (c) 2003  Thomson Derwent
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20/5/1 **(Item 1 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

015188113 **Image available**
WPI Acc No: 2003-248647/200324
XRPX Acc No: N03-197518
Classifying binary strings **e.g. IP data** packets **for maintaining servicing** level **agreements in Internet communications based on IP address specifications in** packet headers
Patent Assignee: NOKIA CORP (OYNO)
Inventor: EKLUND C; HEINER A
Number of Countries: 097 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200321906	A1	20030313	WO 2001EP9960	A	20010829	200324	B

Priority Applications (No Type Date): WO 2001EP9960 A 20010829
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200321906	A1	E	34	H04L-029/06	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

Abstract (Basic): WO 200321906 A1
NOVELTY - Involves searching search **tree** for several **classification** fields based on a matching procedure. An **index** value is obtained in a **leaf node** of the search **tree** for each **classification** field. The **index** values thus obtained in the searching step are used to derive a policy to be applied to the data **packet** . The number of **index** values is reduced by combining intermediate results of the searching with results of the policy derivation.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a network element.
USE - For **classification** of bit strings e.g. IP data **packets** on a per-flow basis for maintaining servicing **level** agreements in Internet communications based on IP address specifications in **packet headers** .
ADVANTAGE - Improves computational efficiency and reduces memory requirements.
DESCRIPTION OF DRAWING(S) - The drawing shows a block diagram of a router adapted to implement the method.
pp; 34 DwgNo 1/5
Title Terms: **CLASSIFY** ; BINARY; STRING; IP; DATA; **PACKET** ; MAINTAIN; SERVICE; **LEVEL** ; COMMUNICATE; BASED; IP; ADDRESS; SPECIFICATION; **PACKET** ; **HEADER**
Derwent Class: T01; W01
International Patent Class (Main): **H04L-029/06**
File Segment: EPI

20/5/2 **(Item 2 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

015137680 **Image available**
WPI Acc No: 2003-198206/200319
XRPX Acc No: N03-157472
Node **operation method in** packet **switched network, involves merging multicast route with another multicast route to provide multicast route through** node
Patent Assignee: PUNG H K (PUNG-I); SONG J (SONG-I)
Inventor: PUNG H K; SONG J

Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020150099	A1	20021017	US 2001283370	P	20010413	200319	B
			US 2002121253	A	20020412		

Priority Applications (No Type Date): US 2001283370 P 20010413; US 2002121253 A 20020412
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020150099	A1		34	H04L-012/28	Provisional application US 2001283370

Abstract (Basic): US 20020150099 A1

NOVELTY - A **node** (12) receives a route request including an **identifier** of multicast **source** and at least one quality of service (QoS) constraint for multicast. The multicast route is merged with another multicast route through the **node** , when the **source** determines another multicast route satisfies QoS.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) Method of processing a route confirmation that is redundant at a **node** and deleting a corresponding **branch** ;

(2) Method of establishing multicast route;

(3) Method of operating a **node** within **packet** switched network;

(4) Method of disconnecting a computing device from multicasting routing **tree** ;

(5) Method of establishing multicast route satisfying at least one constraint;

(6) Computer readable medium storing **node** operation program;

(7) Computer readable medium multicast route establishing program; and

(8) Network **node** .

USE - For operating **node** within **packet** switched network used for video conferencing, network TV/radio and video on demand.

ADVANTAGE - The reserved resources of **nodes** not belonging to the final selected route are released quickly during routing thereby increasing probability of successful routing of other request.

DESCRIPTION OF DRAWING(S) - The figure shows the data network including **nodes** .

Node (12)

pp; 34 DwgNo 1/12

Title Terms: **NODE** ; OPERATE; METHOD; **PACKET** ; SWITCH; NETWORK; MERGE; ROUTE; ROUTE; ROUTE; THROUGH; **NODE**
Derwent Class: T01; W01; W02
International Patent Class (Main): **H04L-012/28**
International Patent Class (Additional): **H04L-012/56**
File Segment: EPI

20/5/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015095526 **Image available**
WPI Acc No: 2003-156044/200315
XRPX Acc No: N03-123141

Data packets **routing method used in hierarchical network, involves forwarding data** packets **to routers only when data contained in data files** identify **scope region and root** identifier **of that region**

Patent Assignee: BARTON M (BART-I); CHENG M (CHEN-I); LEE J (LEEJ-I)
Inventor: BARTON M; CHENG M; LEE J
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020150094	A1	20021017	US 2000243809	P	20001027	200315	B
			US 200136032	A	20011026		

Priority Applications (No Type Date): US 2000243809 P 20001027; US

200136032 A 20011026
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 20020150094 A1 69 H04L-012/28 Provisional application US 2000243809

Abstract (Basic): US 20020150094 A1
NOVELTY - The scope region bounded by hierarchical **levels** where the **packet** is routed is **identified** after assigning each router to network. The data **packets** are routed to routers only when the data field **identify** scope region and root **identifier** of that region.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:
(1) Method of joining multicast **tree** of multicast session;
(2) Method of receiving receiver **packets** ; and
(3) Data **packets** forwarding method.
USE - For routing data **packets** from **source** to routers and receivers in hierarchical network e.g. hierarchical mobile network (HMN) e.g. tactical IP network.
ADVANTAGE - Eliminates the multicast traffic concentration on a particular link since center point is avoided in hierarchical **level** based IP multicasting (HLIM).
DESCRIPTION OF DRAWING(S) - The figure shows hierarchical mobile network.
pp; 69 DwgNo 1/67
Title Terms: DATA; **PACKET** ; ROUTE; METHOD; HIERARCHY; NETWORK; FORWARDING; DATA; **PACKET** ; ROUTER; DATA; CONTAIN; DATA; FILE; **IDENTIFY** ; SCOPE; REGION; ROOT; **IDENTIFY** ; REGION
Derwent Class: T01; W01
International Patent Class (Main): **H04L-012/28**
File Segment: EPI

20/5/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014834616 **Image available**
WPI Acc No: 2002-655322/200270
XRPX Acc No: N02-517820
Information copying method for computer system, involves identifying **location of** data block **and data file stored in** data block , **if read/write error occurs while copying** data block **from** source **to target storage medium**
Patent Assignee: BJORK T A (BJOR-I); CHRISTOFFERSON A H (CHRI-I); GREGG L E (GREG-I); TILBURY J L (TILB-I); VAN OOSBREE J M (VOOS-I)
Inventor: BJORK T A; CHRISTOFFERSON A H; GREGG L E; TILBURY J L; VAN OOSBREE J M
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
US 20020069376 A1 20020606 US 2000728277 A 20001201 200270 B

Priority Applications (No Type Date): US 2000728277 A 20001201
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 20020069376 A1 13 G06F-011/08
Abstract (Basic): US 20020069376 A1
NOVELTY - Each **data block** is copied from a **source** storage medium (116) to a target storage medium (117). If a read/write error occurs while copying the **data block** , a location of the **data block** and data file stored in the **data block** are **identified** . Each of the **directory** block is copied from the **source** storage medium to target storage medium after copying each **data block** .
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:
(1) Information copying apparatus; and
(2) Computer readable medium storing information copy program.
USE - For computer system.

ADVANTAGE - Provides efficient copying of information from the **source** storage medium to the target storage medium with improved error handling capability.

DESCRIPTION OF DRAWING(S) - The figure shows the high **level** block diagram of computer system.

Source storage medium (116)

Target storage medium (117)

pp; 13 DwgNo 1/6

Title Terms: INFORMATION; COPY; METHOD; COMPUTER; SYSTEM; **IDENTIFY** ; LOCATE; DATA; BLOCK; DATA; FILE; STORAGE; DATA; BLOCK; READ; WRITING; ERROR; OCCUR; COPY; DATA; BLOCK; **SOURCE** ; TARGET; STORAGE; MEDIUM

Derwent Class: T01

International Patent Class (Main): **G06F-011/08**

International Patent Class (Additional): **G06F-013/00**

File Segment: EPI

20/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

014834319 **Image available**

WPI Acc No: 2002-655025/200270

Related WPI Acc No: 2003-209093

XRPX Acc No: N02-517557

Prefix search circuit has address calculator which computes memory addresses of tree **data structure** nodes **based on comparison of search key and data of** tree **data structure to read prefix search data**

Patent Assignee: AVICI SYSTEMS (AVIC-N)

Inventor: CARVEY P P; DALLY W J; DENNISON L R; MANN W F; WATERS G M

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6430527	B1	20020806	US 9884434	P	19980506	200270 B
			US 98104314	A	19980625	
			US 98140030	A	19980826	

Priority Applications (No Type Date): US 9884434 P 19980506; US 98104314 A 19980625; US 98140030 A 19980826

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6430527	B1		22	G06F-017/30	Provisional application US 9884434 CIP of application US 98104314

Abstract (Basic): US 6430527 B1

NOVELTY - The prefix search circuit includes a comparator that collates a search key with the data from a prefix search **tree** data structure. An address calculator computes the memory addresses of the **nodes** of the **tree** data structure in the forward pass of the **tree** data structure, based on the comparison result to read the data of a prefix search data structure from a memory.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a prefix search device.

USE - Applicable for **packet** routing and **classification** in network.

ADVANTAGE - Enables providing prefix search circuit with prefix search devices in an integrated circuit for performing prefix search of prefix search data structure based on a prefix search key.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of hardware search engine for prefix search operation.

pp; 22 DwgNo 7/15

Title Terms: PREFIX; SEARCH; CIRCUIT; ADDRESS; CALCULATE; COMPUTATION; MEMORY; ADDRESS; **TREE** ; DATA; STRUCTURE; **NODE** ; BASED; COMPARE; SEARCH; KEY; DATA; **TREE** ; DATA; STRUCTURE; READ; PREFIX; SEARCH; DATA

Derwent Class: T01; W01

International Patent Class (Main): **G06F-017/30**

File Segment: EPI

20/5/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014761959 **Image available**
WPI Acc No: 2002-582663/200262
XRPX Acc No: N02-462049
Internet protocol packet **transfer control method for ATM networks, involves combining address solved route information and information specifying** packet header **, for judging execution of transfer to software**
Patent Assignee: FUJITSU LTD (FUIT); INO H (INOH-I); KAWADA H (KAWA-I); KONRIKI S (KONR-I); OGASAWARA H (OGAS-I); SONODA T (SONO-I); YAMAMOTO A (YAMA-I)
Inventor: INO H; KAWADA H; KONRIKI S; OGASAWARA H; SONODA T; YAMAMOTO A
Number of Countries: 002 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020073222	A1	20020613	US 200110418	A	20011206	200262	B
JP 2002176437	A	20020621	JP 2000373247	A	20001207	200262	

Priority Applications (No Type Date): JP 2000373247 A 20001207
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020073222	A1		20	G06F-015/173	
JP 2002176437	A		15	H04L-012/56	

Abstract (Basic): US 20020073222 A1
NOVELTY - A route information that has been address solved by **tree** search using a destination address contained in IP **packet header** information, is determined by hardware processing. Another route information that specifies a **packet header** or **packet identifying** information, is determined. The route information are combined to judge execution of transfer to software.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for **packet** transfer control system.
USE - For controlling **packet** transfer in IP router within ATM networks.
ADVANTAGE - The judging of the software transfer allows only those **packets** that require processing to be processed by the software, improves system reliability and reduces software loading.
DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of connection configuration between edge **node** functional block and ATMSW.
pp; 20 DwgNo 2/11
Title Terms: PROTOCOL; **PACKET** ; TRANSFER; CONTROL; METHOD; ATM; NETWORK; COMBINATION; ADDRESS; SOLVING; ROUTE; INFORMATION; INFORMATION; SPECIFIED ; **PACKET** ; **HEADER** ; JUDGEMENT; EXECUTE; TRANSFER; SOFTWARE
Derwent Class: T01; W01
International Patent Class (Main): **G06F-015/173** ; **H04L-012/56**
International Patent Class (Additional): **G06F-015/16**
File Segment: EPI

20/5/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014530176 **Image available**
WPI Acc No: 2002-350879/200238
XRPX Acc No: N02-275687
Data structure for organizing multidimensional filter **in digital communication network, has jump table pointing to search** trees **each of which comprises** leaf nodes identifying **small set of** filters
Patent Assignee: WOO T Y (WOOT-I)
Inventor: WOO T Y
Number of Countries: 001 Number of Patents: 001

Patent Family:
Patent No Kind Date Applicat No Kind Date Week
US 20020023089 A1 20020221 US 2000184581 P 20000224 200238 B
US 2001792095 A 20010222

Priority Applications (No Type Date): US 2000184581 P 20000224; US 2001792095 A 20010222
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 20020023089 A1 25 G06F-017/30 Provisional application US 2000184581

Abstract (Basic): US 20020023089 A1
NOVELTY - A jump table pointing to multiple search **trees** , is **indexed** on preselected bit positions of preselected **filter** dimensions. Each search **tree** has one or more terminating **leaf nodes** which **identify** a small set of **filters** .
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(a) **Filter identification** method;
(b) Multidimensional **filter** table conversion method
USE - For organizing multidimensional **filters** used for **packet classification** in digital communication network.
ADVANTAGE - The relative usage of the individual **filters** in a **filter** table is taken into account to generate a more optimal search data structure. The **tree** phase is preferably optimized to allow the search to quickly narrow down to a specific **filter** among large set of **filters** .
DESCRIPTION OF DRAWING(S) - The figure shows the multidimensional IP **packet filter** table.
pp; 25 DwgNo 1/13
Title Terms: DATA; STRUCTURE; ORGANISE; MULTIDIMENSIONAL; **FILTER** ; DIGITAL ; COMMUNICATE; NETWORK; JUMP; TABLE; POINT; SEARCH; **TREE** ; COMPRISE; **LEAF** ; **NODE** ; **IDENTIFY** ; SET; **FILTER**
Derwent Class: T01; W01
International Patent Class (Main): **G06F-017/30**
International Patent Class (Additional): **H04L-009/00**
File Segment: EPI

20/5/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014511865 **Image available**
WPI Acc No: 2002-332568/200237
XRPX Acc No: N02-261217
Data packet sorting **method in** packet **communication, involves passing data** packets **successively to each** child node **of each** tree level **until predetermined** node criteria **are satisfied or not satisfied**
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC)
Inventor: SCHALES D L; SESHAN S; ZOHAR M
Number of Countries: 002 Number of Patents: 002
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
GB 2365668 A 20020220 GB 20018676 A 20010406 200237 B
JP 2002271396 A 20020920 JP 2001112676 A 20010411 200277

Priority Applications (No Type Date): US 2000548141 A 20000413
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
GB 2365668 A 28 H04L-012/56
JP 2002271396 A 13 H04L-012/56
Abstract (Basic): GB 2365668 A
NOVELTY - The data **packets** received at the root **node** of a **sorting tree** , are successively passed to each **child node** of the primary **level** of the **tree** until the predetermined **node criteria** of the **child node** are satisfied. The **packets** are then

successively passed to the secondary **level** of the **tree** , when the **child node** in the secondary **level** does not satisfy predetermined **node criteria** .

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Data **packet sorting** apparatus;

(b) Article of manufacture;

(c) Computer program on a computer readable medium for storing data **packets sorting** program;

(d) **Packet** disposition apparatus

USE - For **sorting** delay **packets** in **packet** communication.

ADVANTAGE - Extendibility of **packet** processing is enhanced.

DESCRIPTION OF DRAWING(S) - The figure shows the relationship between protocol layers of the data **packet classification** method.

pp; 28 DwgNo 1/11

Title Terms: DATA; **PACKET** ; **SORT** ; METHOD; **PACKET** ; COMMUNICATE; PASS; DATA; **PACKET** ; SUCCESSION; **CHILD** ; **NODE** ; **TREE** ; **LEVEL** ; PREDETERMINED; **NODE** ; **CRITERIA** ; SATISFY; SATISFY

Derwent Class: T01; W01

International Patent Class (Main): **H04L-012/56**

International Patent Class (Additional): **H04L-029/06** ; H04Q-011/04

File Segment: EPI

20/5/9 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

014234581 **Image available**

WPI Acc No: 2002-055279/200207

XRPX Acc No: N02-040758

Lookup operation method in router of packet **switched network, involves continuing or terminating execution of lookup operation based on result obtained by execution of selected lookup operation**

Patent Assignee: JUNIPER NETWORKS INC (JUNI-N)

Inventor: CHEUNG G; FERGUSON D C; PATEL R N; SINDHU P S

Number of Countries: 096 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200180502	A1	20011025	WO 2001US40482	A	20010410	200207	B
AU 200155840	A	20011030	AU 200155840	A	20010410	200219	
EP 1275224	A1	20030115	EP 2001929053	A	20010410	200306	
			WO 2001US40482	A	20010410		

Priority Applications (No Type Date): US 2000550413 A 20000417

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200180502	A1	E	88	H04L-012/28	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200155840	A		H04L-012/28	Based on patent WO 200180502
EP 1275224	A1	E	H04L-012/28	Based on patent WO 200180502

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

Abstract (Basic): WO 200180502 A1

NOVELTY - A lookup operation determined by the selection unit is executed. If result obtained by execution of lookup operation includes a pointer to another lookup operation, the lookup operation indicated by the result is executed. Otherwise the lookup operation is terminated.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Stream policing method;

(b) Lookup data structure updating method;
(c) Lookup data structure;
(d) Route lookup engine;
(e) Stream policing apparatus;
(f) Routing determination method

USE - For performing lookup operation such as **tree** searching, **index** searching and **filtering** in router of **packet** switched network.

ADVANTAGE - Implements traffic policing based on a fixed window monitoring mechanism with a minimal use of memory bandwidth. Implements general purpose **packet filter** within a lookup engine for longest match lookup using simple technique.

DESCRIPTION OF DRAWING(S) - The figure shows the schematic block diagram of the multifunction port.

pp; 88 DwgNo 3/14

Title Terms: OPERATE; METHOD; ROUTER; **PACKET** ; SWITCH; NETWORK; CONTINUE; TERMINATE; EXECUTE; OPERATE; BASED; RESULT; OBTAIN; EXECUTE; SELECT; OPERATE

Derwent Class: W01

International Patent Class (Main): **H04L-012/28**

International Patent Class (Additional): **H04L-012/56**

File Segment: EPI

20/5/10 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

014131748 **Image available**

WPI Acc No: 2001-615959/200171

XRPX Acc No: N01-459506

Labeled routing tree **production method for computer network, involves determining shortest access path, based on the network topology graph, to generate routing** trees

Patent Assignee: NOKIA WIRELESS ROUTERS INC (OYNO)

Inventor: BEYER D A; GARCIA-LUNA-ACEVES J J; SPOHN M

Number of Countries: 095 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200130035	A2	20010426	WO 2000US41180	A	20001016	200171	B
AU 200119652	A	20010430	AU 200119652	A	20001016	200171	
EP 1224776	A2	20020724	EP 2000982648	A	20001016	200256	
			WO 2000US41180	A	20001016		

Priority Applications (No Type Date): US 99418700 A 19991015

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200130035	A2	E	33	H04L-012/56	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200119652	A		H04L-012/56	Based on patent WO 200130035
EP 1224776	A2	E	H04L-012/56	Based on patent WO 200130035

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): WO 200130035 A2

NOVELTY - The network topology graph is produced, based on the adjacent links of routers and labeled routery **trees** (LRTs) of adjacent routers. The shortest access path in the computer network relevant to the partial network topology graph is determined. Based on the access path, LRTs are produced.

DETAILED DESCRIPTION - The LRTs of router are updated, based on the received updated messages. Local link **identifies** are assigned to each network link. The **node** parameters in the updated message is

identified , relevant to the link **identifiers** , during updating. The updated messages are forwarded based on the detected new destination **nodes** . INDEPENDENT CLAIMS are also included for the following:
(a) Routing protocol;
(b) Routing updated message
USE - For protocol routing management in computer network, multi-hop **packet** radio/ad hoc network e.g. internet radio network.
ADVANTAGE - Enables computing the **source** routes easily without need for local link **identifiers** , thereby ensures efficient use of available bandwidth.
DESCRIPTION OF DRAWING(S) - The figure shows the ad hoc wireless network with routers.
pp; 33 DwgNo 1/4
Title Terms: LABEL; ROUTE; **TREE** ; PRODUCE; METHOD; COMPUTER; NETWORK; DETERMINE; SHORT; ACCESS; PATH; BASED; NETWORK; TOPOLOGICAL; GRAPH; GENERATE; ROUTE; **TREE**
Derwent Class: W01
International Patent Class (Main): **H04L-012/56**
File Segment: EPI

20/5/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014118787 **Image available**
WPI Acc No: 2001-602999/200169
XRPX Acc No: N01-450021
Rule **detection method for internet, involves performing longest-matching-prefix search in search** tree **by inputting combination of selected range tokens, to find** rule identifier
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC); ENGBERSEN T (ENGB-I); LUNTEREN J V (LUNT-I)
Inventor: ENGBERSEN T; VAN LUNTEREN J; ENGBERSEN A P J; LUNTEREN J V
Number of Countries: 030 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
CA 2330222	A1	20010727	CA 2330222	A	20010105	200169	B
EP 1128608	A2	20010829	EP 2000128674	A	20001229	200169	
JP 2001274837	A	20011005	JP 200115820	A	20010124	200173	
US 20020009076	A1	20020124	US 2001778140	A	20010207	200210	
KR 2001077983	A	20010820	KR 20012057	A	20010113	200212	

Priority Applications (No Type Date): EP 2000810073 A 20000127
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CA 2330222	A1	E	43	H04L-012/56	
EP 1128608	A2	E		H04L-012/56	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
JP 2001274837	A		18	H04L-012/56	
US 20020009076	A1			H04L-012/28	
KR 2001077983	A			H04L-012/56	

Abstract (Basic): CA 2330222 A1
NOVELTY - A range token of non-uniform length is selected from a set, each representing a basic range of criterion values in data **packet** . A combination of selected tokens related to one data **packet** is input for look-up operation in a search **tree** containing **rule identifiers** , to find a **rule identifier** , by performing a longest-matching-prefix search operation.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(a) Search **tree** ;
(b) Data **packets classification** method;
(c) Data **packets classification** system
USE - For communication system, such as internet.
ADVANTAGE - The required handling **rule** for each **packet** is

determined in a time, which is compatible to the transmission speed of the **packets** , so that no delay is encountered. Updating of the mapping databases, when new **rules** are added or assignments between ranges and **rules** change, is easily effected, by adding a few entries in the tables without having to alter much of the stored data.

DESCRIPTION OF DRAWING(S) - The figure shows a procedure for **classifying packets** .

pp; 43 DwgNo 1/12

Title Terms: **RULE** ; DETECT; METHOD; PERFORMANCE; LONG; MATCH; PREFIX; SEARCH; SEARCH; **TREE** ; INPUT; COMBINATION; SELECT; RANGE; TOKEN; FINDER; **RULE** ; **IDENTIFY**

Derwent Class: W01

International Patent Class (Main): **H04L-012/28** ; **H04L-012/56**

International Patent Class (Additional): **G06F-017/30**

File Segment: EPI

20/5/12 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

014095012

WPI Acc No: 2001-579226/200165

Related WPI Acc No: 2002-574533

XRPX Acc No: N01-431084

Address classification **method for** packet **queuing within network routers wherein an axis preprocessing** classification **technique is combined with binary range** tree **searching to allocate queue position**

Patent Assignee: NMS COMMUNICATIONS CORP (NMSC-N)

Inventor: HAWKINSON C D

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6278995	B1	20010821	US 99261067	A	19990302	200165	B

Priority Applications (No Type Date): US 99261067 A 19990302

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6278995	B1		19	G06F-017/30	

Abstract (Basic): US 6278995 B1

NOVELTY - The **classification** system splits the IP address ranges into a **tree** structure, each **level** narrowing the address range values. During the search process, the processor moves down the relevant **branch** performing a series of value comparisons until a final value list is reached and searched for the matching address value to retrieve associated route and **classification** data.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a system and computer program using the search method.

USE - To queue data **packets** for transmission over a Wide Area Network connection (WAN).

ADVANTAGE - The **tree** based search process avoids the need to search large lists of IP addressed to locate routing and **classification** data before assigning a virtual path connection.

pp; 19 DwgNo 0/5

Title Terms: ADDRESS; **CLASSIFY** ; METHOD; **PACKET** ; QUEUE; NETWORK; ROUTER; AXIS; **CLASSIFY** ; TECHNIQUE; COMBINATION; BINARY; RANGE; **TREE** ; SEARCH; ALLOCATE; QUEUE; POSITION

Derwent Class: T01; W01

International Patent Class (Main): **G06F-017/30**

File Segment: EPI

20/5/13 (Item 13 from file: 350)

DIALOG(R)File 350:Derwent WPIX

014027192 **Image available**

WPI Acc No: 2001-511406/200156
Multidimensional packet classification **method**
Patent Assignee: KOREA ELECTRONICS & TELECOM RES INST (KOEL-N)
Inventor: AHN S S; LEE W H
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
KR 2001017378	A	20010305	KR 9932861	A	19990811	200156	B

Priority Applications (No Type Date): KR 9932861 A 19990811
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
KR 2001017378	A		1	H04L-012/56	

Abstract (Basic): KR 2001017378 A
NOVELTY - A multidimensional **packet classification** method is provided to achieve extensity to a large-sized system having a great quantity of **packet classification rules** and to apply to various protocol fields by **classifying packets** after forming a **tree** for **packet classification rules** .
DETAILED DESCRIPTION - The number of **packet classification rules** 'i' and the number of fields 's' are initialized as '0'(301). A variable 'N' memorizes route **nodes** only(302). A filed to be executed presently is selected(303). A deterministic **rule** is carried out to form portions marked with dot lines. Along the links designated as '0' and '1' links are generated if there is no link(304). All **nodes** that are encountered along all possible links to 'asterisk' are stored(305). The number of fields 's' is increased by '1'(306). If all possible **nodes** that can go along links are stored, **nodes** that can become start points when a next field is added are stored(307). If is confirmed whether processing for one given **rule** finished(308). If processing for one given **rule** finished, the number of **packet classification rules** 'i' is increased by '1'(309). It is confirmed whether processing for all **packet classification rules** finished(310). If processing for all **packet classification rules** was completed, a **tree** is generated(311).
pp; 1 DwgNo 1/10
Title Terms: MULTIDIMENSIONAL; **PACKET** ; **CLASSIFY** ; METHOD
Derwent Class: W01
International Patent Class (Main): **H04L-012/56**
File Segment: EPI

20/5/14 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013725773 **Image available**
WPI Acc No: 2001-210003/200121
Related WPI Acc No: 2000-586138; 2001-158042; 2001-210000; 2001-289549; 2001-424873; 2001-579289; 2001-615516; 2001-624100; 2001-637990; 2002-235390; 2002-673108
XRPX Acc No: N01-149943
Communication system for managing telephony over hybrid networks, selects gateway object based on immediate availability of resource to handle telephone communication at gateway object
Patent Assignee: BELL ATLANTIC NETWORK SERVICES (BELL-N)
Inventor: BALKOVICH E E; FARRIS R D; GADRE J G; GOODMAN W D; VOIT E A; WHITE P E; YOUNG D E
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6157648	A	20001205	US 97812075	A	19970306	200121	B
			US 97931477	A	19970916		

Priority Applications (No Type Date): US 97931477 A 19970916; US 97812075 A 19970306
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6157648	A		43	H04L-012/66	CIP of application US 97812075

Abstract (Basic): US 6157648 A

NOVELTY - A response signal, corresponding to a request **identifying** a selected group of gateway objects for providing a hop-off to reach an intended destination, is transmitted. The selection of the gateway object by a **directory** object is based on the immediate availability of a resource to handle the telephone communication at the gateway object.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) a communicating method;

(b) a software product; and

(c) a **directory** object.

USE - For managing telephony over hybrid network e.g. combined switched telephone network and **packet** switched inter network e.g. Internet.

ADVANTAGE - Enables informing customer about pricing **rules** for a call prior to call connection and to report the price of the call in real time visually or orally. Provides customers with ready access to information in their account records without allowing customers to access the account database used in implementing services.

DESCRIPTION OF DRAWING(S) - The figure shows the diagram of a PC to Phone Internet Telephony architecture.

pp; 43 DwgNo 1/19

Title Terms: COMMUNICATE; SYSTEM; MANAGE; TELEPHONE; HYBRID; NETWORK; SELECT; GATEWAY; OBJECT; BASED; IMMEDIATE; AVAILABLE; RESOURCE; HANDLE; TELEPHONE; COMMUNICATE; GATEWAY; OBJECT

Derwent Class: T01; W01

International Patent Class (Main): **H04L-012/66**

File Segment: EPI

20/5/15 (Item 15 from file: 350)

013377518 **Image available**

WPI Acc No: 2000-549456/200050

XRPX Acc No: N00-406471

Forwarding table for routing data packets **via internet, has table to provide next hop** index **to** packets **having address for which address bit, fields are sufficient to determine next hop address**

Patent Assignee: REDSTONE COMMUNICATIONS INC (REDS-N)

Inventor: HEYDA R L; LIPMAN M E

Number of Countries: 024 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200051298	A1	20000831	WO 2000US4593	A	20000223	200050	B
AU 200037050	A	20000914	AU 200037050	A	20000223	200063	
US 6192051	B1	20010220	US 99259064	A	19990226	200112	
EP 1155537	A1	20011121	EP 2000915846	A	20000223	200176	
			WO 2000US4593	A	20000223		
CN 1341314	A	20020320	CN 2000804339	A	20000223	200246	

Priority Applications (No Type Date): US 99259064 A 19990226

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200051298	A1	E	63	H04L-012/56	
Designated States (National): AU CA CN IL					
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
AU 200037050	A			H04L-012/56	Based on patent WO 200051298
US 6192051	B1			H04L-012/56	
EP 1155537	A1	E		H04L-012/56	Based on patent WO 200051298
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					

CN 1341314 A H04L-012/56

Abstract (Basic): WO 200051298 A1

NOVELTY - Tables (144,146) with addressable address bits from **packet** address field, respectively. The table (144) provides next hop **index** if address bits in the directly addressable entries is sufficient to determine next hop address else provides pointer to table (146). The table (146) provides next hop **index** to **packets** with address for which address bit fields are sufficient to determine the next hop address.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) method of operating a network device;

(b) data structure for determining the address of next hop networks to which data **packets** are to be forwarded;

(c) apparatus for determining the addresses of next hop network to which data **packets** are to be forwarded

USE - For routing data **packets** or frames from **source** network **node** to one or more destination network **nodes** by data network like internet.

ADVANTAGE - The route lookups are performed simply, rapidly and efficiently by storing the forwarding tables in memory. The routes can react quickly to change in the network topology while maintaining high route lookup rates by updating the forwarding tables fast and efficiently by a central routing table.

DESCRIPTION OF DRAWING(S) - The figure shows the schematic diagram of an uncompressed **tree** data structure representation of routing table in system controller in network route device.

Tables (144,146)

pp; 63 DwgNo 7/15

Title Terms: FORWARDING; TABLE; ROUTE; DATA; **PACKET** ; TABLE; HOP; **INDEX** ; **PACKET** ; ADDRESS; ADDRESS; BIT; FIELD; SUFFICIENT; DETERMINE; HOP; ADDRESS

Derwent Class: W01

International Patent Class (Main): **H04L-012/56**

File Segment: EPI

20/5/16 (Item 16 from file: 350)

DIALOG(R)File 350:Derwent WPIX

012914671 **Image available**

WPI Acc No: 2000-086507/200007

XRPX Acc No: N00-067910

Packet classifier **implemented in kernel of operating system for communication network**

Patent Assignee: TELIA AB (TELI-N)

Inventor: BORG N; FLODIN M

Number of Countries: 023 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9959303	A2	19991118	WO 99SE788	A	19990511	200007	B
SE 9801744	A	19991115	SE 981744	A	19980514	200009	
NO 200005629	A	20010110	WO 99SE788	A	19990511	200115	
			NO 20005629	A	20001108		
EP 1088430	A2	20010404	EP 99927046	A	19990511	200120	
			WO 99SE788	A	19990511		

Priority Applications (No Type Date): SE 981744 A 19980514

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9959303	A2	E	20	H04L-012/56	

Designated States (National): EE LT LV NO US

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

NO 200005629	A		H04L-012/56	
EP 1088430	A2	E	H04L-012/56	Based on patent WO 9959303

Designated States (Regional): DE DK ES FI FR GB IT LT LV SE

Abstract (Basic): WO 9959303 A2

NOVELTY - **Packet classifier** in an end system or router divides into classes when several **filters** are stored. The **classifier** inspects each **packet** and determines its treatment based on information in **packet** header.

DETAILED DESCRIPTION - The **packet classifier** consists of a reservation program (1), interface between data structures (3), and **packets** flows (2) and interface with **packets** (4). The **packet** structure uses a nonlinear structure for storing **filters** and a binomial and trie **trees** to improve the performance of data structure.

USE - In communication network, fire walls, as policing unit in QoS context.

ADVANTAGE - The **packet classifier** has a scalable data structure, general **filter** specification and low memory consumption.

DESCRIPTION OF DRAWING(S) - The figure shows the schematic form of **packet classifier** with its components.

Reservation program (1)

Packet flows (2)

Data structures (3)

Packets (4)

pp; 20 DwgNo 1/6

Title Terms: **PACKET** ; **CLASSIFY** ; IMPLEMENT; KERNEL; OPERATE; SYSTEM; COMMUNICATE; NETWORK

Derwent Class: W01

International Patent Class (Main): **H04L-012/56**

File Segment: EPI

20/5/17 (Item 17 from file: 350)

DIALOG(R)File 350:Derwent WPIX

012843279 **Image available**

WPI Acc No: 2000-015111/200002

XRPX Acc No: N00-011891

Method of altering dynamic decision tree **in data** packet **switches**

Patent Assignee: HEWLETT-PACKARD CO (HEWP)

Inventor: CALAMVOKIS C; EDWARDS A J

Number of Countries: 026 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 954139	A1	19991103	EP 98303425	A	19980501	200002	B
US 6320848	B1	20011120	US 99302871	A	19990430	200174	

Priority Applications (No Type Date): EP 98303425 A 19980501

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 954139	A1	E	16	H04L-012/56	

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

US 6320848 B1 H04L-012/56

Abstract (Basic): EP 954139 A1

NOVELTY - The method allows incremental changes to be made to the decision **tree** without interrupting operation of the **packet** switch more than momentarily.

DETAILED DESCRIPTION - The method concerns a data **packet** switch which includes a decision **tree** for **classifying** data **packets** . This can be dynamically modified. To conserve memory resources, **nodes** which are found during modification to have matching effects are combined. If only a subset of paths to a **node** are relevant to a modification, the **node** is split. Prior to implementation of the modifications, temporary **nodes** are inserted before modified **nodes** to preserve existing paths. These temporary **nodes** are controlled by a single memory value which can be changed to effect all the

modifications to the decision **tree** simultaneously.
USE - The method is used for altering dynamic decision **trees** in switches used for directing data **packets** in **packet** based data communication networks.
ADVANTAGE - Incremental changes can be made to the decision **tree** without interrupting operation of the **packet** switch more than momentarily and without any need to buffer incoming **packets** .
DESCRIPTION OF DRAWING(S) - The figure is a flow chart illustrating the principal steps in a recursive procedure for managing changes to a dynamic decision **tree** .
pp; 16 DwgNo 4/13
Title Terms: METHOD; ALTER; DYNAMIC; DECIDE; **TREE** ; DATA; **PACKET** ; SWITCH
Derwent Class: T01; W01
International Patent Class (Main): **H04L-012/56**
International Patent Class (Additional): **H04L-012/26**
File Segment: EPI

20/5/18 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012829235 **Image available**
WPI Acc No: 2000-001067/200001
XRPX Acc No: N00-000982
Managing dynamic decision trees **containing multiple nodes**
Patent Assignee: HEWLETT-PACKARD CO (HEWP)
Inventor: CALAMVOKIS C; EDWARDS A J
Number of Countries: 026 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 954140	A1	19991103	EP 98303430	A	19980501	200001	B
US 6549521	B1	20030415	US 99303177	A	19990430	200329	

Priority Applications (No Type Date): EP 98303430 A 19980501
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 954140	A1	E	16	H04L-012/56	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
US 6549521	B1			H04L-012/56	

Abstract (Basic): EP 954140 A1
NOVELTY - The method of managing a dynamic decision **tree** containing a number of nodes, after the addition of at least one node depending from an existing node involves **identifying** an added node at which node addition terminated. A matching existing node is the sought, and upon location, every added branch node that points to the added node is **identified** , and redirected to the matching existing node.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for; a method for managing a dynamic decision **tree** in which a matching existing node is sought.
USE - Managing dynamic decision **trees** for example for use in switches e.g. hubs and routers used for directing data **packets** in **packet** -based data communications networks, or in monitoring probes for collecting data about operation of such networks.
ADVANTAGE - Permits incremental changes to be made to the decision **tree** in response to changes in associated routing **rules** .
DESCRIPTION OF DRAWING(S) - The drawing shows a flowchart illustrating the principle steps in a recursive procedure for managing changes to a dynamic decision **tree** .
pp; 16 DwgNo 4/14
Title Terms: MANAGE; DYNAMIC; DECIDE; **TREE** ; CONTAIN; MULTIPLE; NODE
Derwent Class: T01; W01
International Patent Class (Main): **H04L-012/56**
International Patent Class (Additional): **G06F-009/44** ; **G06F-017/30**
File Segment: EPI

20/5/19 (Item 19 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012679365 **Image available**
WPI Acc No: 1999-485472/199941
XRPX Acc No: N99-362501
ATM multicast system for e.g. ATM connectionless network - has edge node **forwarding unit which forwards multicast** packet **only to network corresponding to** identification **information on user's network registered into edge** node **table**
Patent Assignee: NEC CORP (NIDE)
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 11205343	A	19990730	JP 9813536	A	19980109	199941	B
JP 3013832	B2	20000228	JP 9813536	A	19980109	200015	

Priority Applications (No Type Date): JP 9813536 A 19980109
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 11205343	A		16	H04L-012/28	
JP 3013832	B2		14	H04L-012/28	Previous Publ. patent JP 11205343

Abstract (Basic): JP 11205343 A
NOVELTY - An edge **node** forwarding unit forwards a multicast **packet** only to the network, which corresponds to the **identification** information on the user's network registered into an edge **node** table, corresponding to multicast address of the multicast **packet** . DETAILED DESCRIPTION - An edge **node** transmitter forwards the **packet** based on **identification** information on the relay **node** (12-19) stored by the edge **node** table. The relay **node** forwards the forwarding **packet** from the output interface, which corresponds to output interface **identification** information stored by a relay **node** table, based on the input interface **identification** information stored by the relay table. A multicast **node** table stores **identification** information on another relay **node** corresponding to the multicast address. The multicast **node** notifies of simultaneous-broadcast selection as the multicast **packet** from the multicast address of the forwarding **packet** from the relay **node** based on **identification** information stored by the multicast **node** table.
USE - For e.g. ATM (asynchronous transfer mode) connectionless network.
ADVANTAGE - Reduces scale of table in relay **node** . Reduces load in relay **node** and improves throughput of network. Reduces load of each **node** in ATM connectionless network. Simplifies control for multicast **tree** generation. DESCRIPTION OF DRAWING(S) - The figure is a block diagram showing the schema of the components of ATM multicast system. (12-19) Relay **node** .
Dwg.1/17
Title Terms: ATM; SYSTEM; ATM; NETWORK; EDGE; **NODE** ; FORWARDING; UNIT; FORWARD; **PACKET** ; NETWORK; CORRESPOND; **IDENTIFY** ; INFORMATION; USER; NETWORK; REGISTER; EDGE; **NODE** ; TABLE
Derwent Class: W01
International Patent Class (Main): **H04L-012/28**
International Patent Class (Additional): **H04L-012/18**
File Segment: EPI

20/5/20 (Item 20 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012228473 **Image available**
WPI Acc No: 1999-034580/199903
Related WPI Acc No: 1992-104943; 1996-115914; 1999-120323
XRPX Acc No: N99-025923

Packet **data communication method for internet - involves referring source address in** directory **table for obtaining** source filtering **information relating to** source

Patent Assignee: FENNER P R (FENN-I)
Inventor: FENNER P R
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5842224	A	19981124	US 89367012	A	19890616	199903	B
			US 91737147	A	19910729		
			US 94269951	A	19940630		

Priority Applications (No Type Date): US 91737147 A 19910729; US 89367012 A 19890616; US 94269951 A 19940630
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5842224	A		34	G06F-012/06	CIP of application US 89367012 Cont of application US 91737147 CIP of patent US 5095480

Abstract (Basic): US 5842224 A

The method involves receiving a data **packet** using a media access controller, for interconnecting data networks. The data **packet** is then examined for detecting its **source** address. The **source** address is referred in a **directory** table (130) at the controller for obtaining **source filtering** information relating to it.

During referring, the **source** address is arithmetically coded as numerical value uniquely **identifying** a record of data containing **source filtering** information. The **identified** data record is accessed for retrieving **filtering** information associated with **source** address. It is then determined whether any **nodes** of the data network connected to the controller, are protected from receiving data **packet** from the **source** .

USE - For long haul networks, LAN, ETHERNET, TOKEN RING, TOKEN BUS, FDDI.

ADVANTAGE - Achieves single access speed without employing overflow methods. Allows graceful degradation of routing efficiency, when memory available for routing tables is full.

Dwg.4/14

Title Terms: **PACKET** ; DATA; COMMUNICATE; METHOD; REFER; **SOURCE** ; ADDRESS; **DIRECTORY** ; TABLE; OBTAIN; **SOURCE** ; **FILTER** ; INFORMATION; RELATED; **SOURCE**
Derwent Class: T01
International Patent Class (Main): **G06F-012/06**
File Segment: EPI

20/5/21 (Item 21 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010545006 **Image available**
WPI Acc No: 1996-041959/199605
XRPX Acc No: N96-035202

ATM network communication system - uses table to provide correspondence between routing indicators to accumulate packets **with same route** identifier **for output with priority code setting transmission priority according to bit rate**

Patent Assignee: PHILIPS COMMUNICATION ENTR (PHIG); PHILIPS ELECTRONICS NV (PHIG); TRT TELECOM RADIOELEC TEL SA (TRTT); PHILIPS GLOEILAMPENFAB NV (PHIG); US PHILIPS CORP (PHIG)
Inventor: GAUTHIER J
Number of Countries: 005 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 689371	A1	19951227	EP 95201573	A	19950613	199605	B
FR 2721777	A1	19951229	FR 947664	A	19940622	199608	
JP 8018576	A	19960119	JP 95153263	A	19950620	199613	

US 5684798 A 19971104 US 95493782 A 19950622 199750

Priority Applications (No Type Date): FR 947664 A 19940622
Cited Patents: 2.Jnl.Ref; EP 138717; FR 2587861
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
EP 689371 A1 F 13 H04Q-011/04
Designated States (Regional): DE FR GB
JP 8018576 A 9 H04L-012/28
US 5684798 A 11 H04L-012/56
FR 2721777 A1 H04J-003/22

Abstract (Basic): EP 689371 A
The system includes a number of access terminals which allow a user to transmit at a certain rate from a transmission cell towards a destination defined by a routing **identifier** . A number of service circuits have files which store the cell used with the routing **identifier** . An allocation circuit determines provision to the terminals via an intermediate output circuit. The allocation circuit includes a table which provides a correspondence between routing indicators and a priority code which sets the order of transmission priority as a function of the transmission rate.
Theoretical transmission data is provided as a function of bit rate to cells received by each service circuit. A first **tree** -structured circuit (358) includes processors (P1-P6) with attached memories (M1-M6) and has leaves which receive the theoretical data. A root contains the root data with the highest priority root established and an extraction circuit providing a priority code for the root data. The **tree** circuit has a succession of active layers from the leaves through **nodes** to the root **node** .
ADVANTAGE - Provides rapid transmission at variable bit rate with reduced jitter.
Dwg.4/4
Title Terms: ATM; NETWORK; COMMUNICATE; SYSTEM; TABLE; CORRESPOND; ROUTE; INDICATE; ACCUMULATE; **PACKET** ; ROUTE; **IDENTIFY** ; OUTPUT; PRIORITY; CODE ; SET; TRANSMISSION; PRIORITY; ACCORD; BIT; RATE
Derwent Class: W01; W02
International Patent Class (Main): H04J-003/22; **H04L-012/28** ; **H04L-012/56** ; H04Q-011/04
International Patent Class (Additional): H04J-003/16; H04J-003/26; **H04L-005/20** ; **H04L-012/44** ; H04Q-003/00
File Segment: EPI

20/5/22 (Item 22 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010535131 **Image available**
WPI Acc No: 1996-032085/199604
XRPX Acc No: N96-027097
Group address data block **handling system for wideband data network - uses** node **-to-** node **transfer of group address protocol information to all subscribers within common group**
Patent Assignee: ALCATEL NV (COGE); ALCATEL (COGE); ALCATEL ALSTHOM CIE GEN ELEC (COGE); ALCATEL STR AG (COGE); ALCATEL AUSTRALIA LTD (COGE)
Inventor: HUG W
Number of Countries: 010 Number of Patents: 005
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
EP 688118 A2 19951220 EP 95201447 A 19950602 199604 B
AU 9521622 A 19951221 AU 9521622 A 19950609 199607
EP 688118 A3 19960501 EP 95201447 A 19950602 199626
NZ 272336 A 19970424 NZ 272336 A 19950612 199723
AU 698479 B 19981029 AU 9521622 A 19950609 199904

Priority Applications (No Type Date): CH 941858 A 19940613

Cited Patents: No-SR.Pub; 2.Jnl.Ref; WO 9213410
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 688118	A2	G	8	H04L-012/18	
Designated States (Regional): CH DE ES FR GB IT LI SE					
AU 698479	B			H04L-012/44	Previous Publ. patent AU 9521622
AU 9521622	A			H04L-012/44	
EP 688118	A3			H04L-012/18	
NZ 272336	A			H04L-012/02	

Abstract (Basic): EP 688118 A

The data network has a number of partial networks with network **nodes** and network-network connections, with protocol information distributed simultaneously to the subscribers within a common group, all the subscribers coupled to the same network **node** forming a sub-group.

The distribution of the group address protocol information is effected by copying from the first **node** of the connection **tree** to each of the subscribers in the associated sub-group, except for the **source** , with subsequent transfer to each of the other sub-groups, via the adjacent network **nodes** . Pref. a **source identification** number is incorporated in the **header** of the protocol information **data block** .

ADVANTAGE - Direct transfer of group address **data blocks** , with ability for alteration of first data cell as required.

Dwg.2/2

Title Terms: GROUP; ADDRESS; DATA; BLOCK; HANDLE; SYSTEM; WIDEBAND; DATA; NETWORK; **NODE** ; **NODE** ; TRANSFER; GROUP; ADDRESS; PROTOCOL; INFORMATION; SUBSCRIBER; COMMON; GROUP
Derwent Class: W01
International Patent Class (Main): **H04L-012/02** ; **H04L-012/18** ; **H04L-012/44**
International Patent Class (Additional): **H04L-012/46** ; **H04L-029/06**
File Segment: EPI

20/5/23 (Item 23 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010472625 **Image available**
WPI Acc No: 1995-373997/199548
XRPX Acc No: N95-275778

Packet **network routing using locally generated routing tables - assigning** nodes **on absolute coordinate based address and making routing decisions at each** node **without use of** directory **based routing**

Patent Assignee: METRICOM INC (METR-N)
Inventor: FLAMMER G H
Number of Countries: 022 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9528780	A1	19951026	WO 95US4678	A	19950411	199548	B
US 5488608	A	19960130	US 94227774	A	19940414	199611	
EP 755596	A1	19970129	EP 95915683	A	19950411	199710	
			WO 95US4678	A	19950411		
JP 10501935	W	19980217	JP 95527138	A	19950411	199817	
			WO 95US4678	A	19950411		
MX 9604818	A1	19980501	MX 964818	A	19961014	200007	
CN 1152383	A	19970618	CN 95192561	A	19950411	200132	

Priority Applications (No Type Date): US 94227774 A 19940414
Cited Patents: US 5115433; US 5142531
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9528780	A1	E	16	H04J-003/24	
Designated States (National): CA CN JP MX					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					

US 5488608 A 7 H04J-003/26
EP 755596 A1 E 1 H04J-003/24 Based on patent WO 9528780
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
JP 10501935 W 17 H04L-012/56 Based on patent WO 9528780
MX 9604818 A1 H04J-003/24
CN 1152383 A H04J-003/24

Abstract (Basic): WO 9528780 A

The method for routing **packets** involves assigning an **identifier** to each **node** in the network, to indicate the absolute coordinate location of the **node** . A **packet** is addressed to an absolute destination **node** by designating in a **packet** **header** the ultimate destination **node** only by the coordinate value of the ultimate destination **node** and without designating a complete intermediate path to the destination, such that the route is free.

A relay local **node** selects a neighbouring **node** by using the **packet** **header** and other information specific to the local **node** according to preselected **criteria** . The relay **node** stored an **identifier** for the selected neighbouring **node** along with a label for the ultimate destination **node** in a routing table. The **packet** is forwarded to the selected neighbouring **node** . The **identifier** is retrieved at the neighbouring **node** from the routing table when a subsequent **packet** for the destination is received at the relay **node** and the subsequent **packet** is forwarded to the **node** indicated by the **identifier** .

USE/ADVANTAGE - Fast transfer of **packet** , as each **node** does not have to decide which route **packet** should take. Reduced processing time.

Dwg.1/2

Title Terms: **PACKET** ; NETWORK; ROUTE; LOCAL; GENERATE; ROUTE; TABLE; ASSIGN; **NODE** ; ABSOLUTE; COORDINATE; BASED; ADDRESS; ROUTE; DECIDE; **NODE** ; **DIRECTORY** ; BASED; ROUTE
Derwent Class: W01; W02
International Patent Class (Main): H04J-003/24; H04J-003/26; **H04L-012/56**
International Patent Class (Additional): H04J-001/16; H04J-003/14; **H04L-012/28** ; **H04L-012/46** ; **H04L-012/66** ; H04Q-011/04
File Segment: EPI

20/5/24 (Item 24 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010374216 **Image available**
WPI Acc No: 1995-275578/199536
XRPX Acc No: N95-210601
Switch control and transmitting data packets **in** packet **switched data communications network - allowing switches to move connectionless data** packets **along established path without transformation of data** packets **once virtual connection is established**
Patent Assignee: CABLETRON SYSTEMS INC (CABL-N)
Inventor: ANDLAUER P; DEV R; DOBBINS K; GRIMES A; HULLETTE D; JEFFORDS J; MATTHEWS W; NUTBROWN B; OLIVER C; PARKER T
Number of Countries: 020 Number of Patents: 017
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9520850	A1	19950803	WO 95US1026	A	19950126	199536	B
AU 9516078	A	19950815	AU 9516078	A	19950126	199546	
US 5485455	A	19960116	US 94188238	A	19940128	199609	
US 5491694	A	19960213	US 94188238	A	19940128	199612	
			US 94318277	A	19941005		
US 5521910	A	19960528	US 94188238	A	19940128	199627	
			US 94321038	A	19941005		
AU 9661902	A	19961003	AU 9516078	A	19950126	199650	
			AU 9661902	A	19960806		
AU 9661903	A	19961003	AU 9516078	A	19950126	199650	
			AU 9661903	A	19960806		

EP 741937	A1	19961113	EP 95908127	A	19950126	199650
			WO 95US1026	A	19950126	
EP 746175	A2	19961204	EP 95908127	A	19950126	199702
			EP 96113840	A	19950126	
EP 746176	A2	19961204	EP 95908127	A	19950126	199702
			EP 96113841	A	19950126	
AU 678687	B	19970605	AU 9516078	A	19950126	199731
AU 681062	B	19970814	AU 9516078	A	19950126	199741
			AU 9661902	A	19960806	
AU 681063	B	19970814	AU 9516078	A	19950126	199741
			AU 9661903	A	19960806	
JP 9508509	W	19970826	JP 95520158	A	19950126	199744
			WO 95US1026	A	19950126	
US 5790546	A	19980804	US 94188238	A	19940128	199838
			US 95567008	A	19951204	
EP 741937	B1	20010912	EP 95908127	A	19950126	200155
			WO 95US1026	A	19950126	
			EP 96113840	A	19950126	
			EP 96113841	A	19950126	
DE 69522666	E	20011018	DE 622666	A	19950126	200169
			EP 95908127	A	19950126	
			WO 95US1026	A	19950126	

Priority Applications (No Type Date): US 94188238 A 19940128; US 94318277 A 19941005; US 94321038 A 19941005; US 95567008 A 19951204

Cited Patents: EP 413488; EP 473066; EP 524316; EP 568477; US 4987536; US 5001707; No-SR.Pub

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9520850	A1	E	150	H04L-012/56	
Designated States (National): AU JP					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
AU 9516078	A			H04L-012/56	Based on patent WO 9520850
US 5485455	A		44	H04L-012/56	
US 5491694	A		42	H04J-003/02	Div ex application US 94188238
US 5521910	A		74	H04L-012/56	Div ex application US 94188238
AU 9661902	A			H04L-012/56	Div ex application AU 9516078
AU 9661903	A			H04L-012/56	Div ex application AU 9516078
EP 741937	A1	E	1	H04L-012/56	Based on patent WO 9520850
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE					
EP 746175	A2	E	91	H04Q-011/04	Div ex application EP 95908127
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE					
EP 746176	A2	E	91	H04Q-011/04	Div ex application EP 95908127
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE					
AU 678687	B			H04L-012/56	Previous Publ. patent AU 9516078 Based on patent WO 9520850
AU 681062	B			H04L-012/56	Div ex application AU 9516078 Previous Publ. patent AU 9661902
AU 681063	B			H04L-012/56	Div ex application AU 9516078 Previous Publ. patent AU 9661903
JP 9508509	W		177	H04L-012/28	Based on patent WO 9520850
US 5790546	A			H04L-012/56	Cont of application US 94188238 Cont of patent US 5485455
EP 741937	B1	E		H04L-012/56	Related to application EP 96113840 Related to application EP 96113841 Related to patent EP 746175 Related to patent EP 746176 Based on patent WO 9520850
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE					
DE 69522666	E			H04L-012/56	Based on patent EP 741937 Based on patent WO 9520850

Abstract (Basic): WO 9520850 A

The switch control method involves, prior to transmission of a data **packet** comprising a connectionless **datagram** from one end system to another, determining a path from the first end system to the second end system through several switches. The path is based on the physical layer addresses of the two end systems. The switches on the path are configured to enable transmission of the data **packet** . The data **packet** remains as a connectionless **datagram** .

Pref., each switch in the path is provided with a connection **identifer** for the data **packet** . The connection **identifier** includes an input port of the respective switch, a physical **source** address of the first end system and a physical address of the second end system. The connection **identifier** is mapped to an output port of the respective switch.

USE/ADVANTAGE - **Packet** LAN or WAN. Allows new **level** of manageability to be achieved not practical with **datagram** oriented technology. Improved bandwidth allocation and new best path searching method.

Dwg.1/22

Title Terms: SWITCH; CONTROL; TRANSMIT; DATA; **PACKET** ; **PACKET** ; SWITCH; DATA; COMMUNICATE; NETWORK; ALLOW; SWITCH; MOVE; DATA; **PACKET** ; ESTABLISH; PATH; TRANSFORM; DATA; **PACKET** ; VIRTUAL; CONNECT; ESTABLISH

Index Terms/Additional Words: **SECURE** **_FAST_** **PACKET** **_SWITC** ; FAST; **PACKET** ; SWITCHING; (SFPS

Derwent Class: W01

International Patent Class (Main): H04J-003/02; **H04L-012/28** ; **H04L-012/56** ; H04Q-011/04

International Patent Class (Additional): H04J-003/16; **H04L-012/66** ; H04Q-003/00

File Segment: EPI

20/5/25 (Item 25 from file: 350)

DIALOG(R)File 350:Derwent WPIX

010231107 **Image available**

WPI Acc No: 1995-132364/199518

XRPX Acc No: N95-104157

Automatic decomposition of network topology into backbone and sub areas - performs automatic decomposition of packet **switching network in backbone nodes and sub areas to speed up routing path search without degrading optimisation criterion of routing algorithm**

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC)

Inventor: GALAND C; SCOTTON P; GALAAND C

Number of Countries: 014 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 637153	A1	19950201	EP 93480105	A	19930730	199518	B
CA 2123441	A	19950131	CA 2123441	A	19940512	199518	
JP 7066834	A	19950310	JP 94154988	A	19940706	199519	
US 5495479	A	19960227	US 94262089	A	19940620	199614	
CA 2123441	C	19990216	CA 2123441	A	19940512	199918	
EP 637153	B1	20011031	EP 93480105	A	19930730	200169	
DE 69331054	E	20011206	DE 631054	A	19930730	200203	
			EP 93480105	A	19930730		

Priority Applications (No Type Date): EP 93480105 A 19930730

Cited Patents: 3.Jnl.Ref

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 637153	A1	E	42	H04L-012/56	
Designated States (Regional): AT BE CH DE ES FR GB IT LI NL SE					
CA 2123441	A			H04L-012/56	
JP 7066834	A		23	H04L-012/56	
US 5495479	A		34	H04L-012/56	
CA 2123441	C			H04L-012/56	
EP 637153	B1	E		H04L-012/56	
Designated States (Regional): AT BE CH DE ES FR GB IT LI NL SE					
DE 69331054	E			H04L-012/56	Based on patent EP 637153

Abstract (Basic): EP 637153 A

The access node receives and transmits data **packets** (301, 302 and 304) and stores the network configuration. It automatically pre-selects a set of usable links for each destination node located in the network, and stores locally the pre-selection of the usable links.

The pre-linking includes decomposing the network into a set of backbone nodes and several subarea nodes. Backbone links are links connecting two backbone nodes, and subarea links are links connecting either two nodes in the same subarea or a subarea node and a backbone node.

ADVANTAGE - Does not generate additional control messages on the network.

Dwg.2/11

Title Terms: AUTOMATIC; DECOMPOSE; NETWORK; TOPOLOGICAL; BACKBONE; SUB; AREA; PERFORMANCE; AUTOMATIC; DECOMPOSE; **PACKET** ; SWITCH; NETWORK; BACKBONE; NODE; SUB; AREA; SPEED; UP; ROUTE; PATH; SEARCH; DEGRADE; OPTIMUM; **CRITERIA** ; ROUTE; ALGORITHM

Derwent Class: W01

International Patent Class (Main): **H04L-012/56**

International Patent Class (Additional): **H04L-012/44**

File Segment: EPI

20/5/26 (Item 26 from file: 350)

DIALOG(R)File 350:Derwent WPIX

009738199 **Image available**

WPI Acc No: 1994-018050/199403

XRPX Acc No: N94-013726

Packet **communications system routing data** packets **- uses ANR labels as initial part of routing field and multi-cast** tree **address as terminating and separated by preselected delimiter.**

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC); IBM CORP (IBMC)

Inventor: CIDON I; DAVENPORT D W; DERBY J H; DUDLEY J G; GOPAL I S; JANNIELLO J P; KAPLAN M A; KOPERDA F R; KUTTEN S; POTTER K H; SIDON I

Number of Countries: 019 Number of Patents: 015

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 579567	A2	19940119	EP 93480059	A	19930519	199403	B
BR 9302033	A	19940111	BR 932033	A	19930524	199406	
AU 9338389	A	19931223	AU 9338389	A	19930506	199407	
CA 2094405	A	19931219	CA 2094405	A	19930420	199410	
JP 6062053	A	19940304	JP 93117296	A	19930519	199414	
US 5309433	A	19940503	US 92900635	A	19920618	199417	
AU 654930	B	19941124	AU 9338389	A	19930506	199503	
TW 250613	A	19950701	TW 93104723	A	19930614	199536	
EP 579567	A3	19950315	EP 93480059	A	19930519	199542	
CN 1081056	A	19940119	CN 93107298	A	19930614	199712	
CA 2094405	C	19990216	CA 2094405	A	19930420	199918	
KR 9614986	B1	19961023	KR 9311006	A	19930614	199929	
EP 579567	B1	19990811	EP 93480059	A	19930519	199936	
DE 69325957	E	19990916	DE 625957	A	19930519	199944	
			EP 93480059	A	19930519		
ES 2136118	T3	19991116	EP 93480059	A	19930519	200001	

Priority Applications (No Type Date): US 92900635 A 19920618

Cited Patents: -SR.Pub; EP 404339; US 4740954; US 4864559; WO 8805982

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 579567	A2	E	12	H04L-012/56	
Designated States (Regional): AT BE CH DE ES FR GB IT LI NL SE					
ES 2136118	T3			H04L-012/56	Based on patent EP 579567
US 5309433	A		12	H04J-003/26	
AU 654930	B			H04L-012/56	Previous Publ. patent AU 9338389
EP 579567	B1	E		H04L-012/56	
Designated States (Regional): AT BE CH DE ES FR GB IT LI NL SE					

DE 69325957	E	H04L-012/56	Based on patent EP 579567
BR 9302033	A	G06F-013/00	
AU 9338389	A	H04L-012/56	
CA 2094405	A	H04L-012/56	
JP 6062053	A	H04L-012/56	
TW 250613	A	H04L-029/04	
EP 579567	A3	H04L-012/56	
CN 1081056	A	H04Q-011/04	
CA 2094405	C	H04L-012/56	
KR 9614986	B1	H04L-012/56	

Abstract (Basic): EP 579567 A

The system provides point-to-point and broadcast **packet** routing to subsets of **nodes** , using a routing field in the **packet** **header** processed according to two different protocols. A third protocol is provided in which a **packet** can be broadcast to the subset even when launched from a **node** not a member of the subset.

The routing field includes two portions which contains the route labels necessary to deliver the **packet** to the broadcast subset and broadcast subset **identifier** to delivery the **packet** to all members of the subset. The system backtrack delivers the **packet** to the last **node** **identified** before the broadcast subset if that **node** is member of the subset.

ADVANTAGE - Allows mixing of ANR and TMM routing in same **packet** **header** .

Dwg.6/9

Title Terms: **PACKET** ; COMMUNICATE; SYSTEM; ROUTE; DATA; **PACKET** ; LABEL; INITIAL; PART; ROUTE; FIELD; MULTI; CAST; **TREE** ; ADDRESS; TERMINATE; SEPARATE; PRESELECTED; DELIMIT

Index Terms/Additional Words: **AUTOMATIC** ; **NETWORK** ; **ROUTING** ; **TREE** ; MULTICAST; MODE

Derwent Class: W01

International Patent Class (Main): **G06F-013/00** ; H04J-003/26; **H04L-012/56** ; **H04L-029/04** ; H04Q-011/04

International Patent Class (Additional): H04J-003/24; **H04L-012/18**

File Segment: EPI

20/5/27 (Item 27 from file: 350)

009115984 **Image available**

WPI Acc No: 1992-243420/199230

XRPX Acc No: N92-185725

Repeater interface controller for bus or tree **local area network - connects segments of LAN and utilises distributed architecture that includes central and port** nodes

Patent Assignee: NAT SEMICONDUCTOR CORP (NASC); MOORWOOD C A (MOOR-I); SINGH C J (SING-I)

Inventor: CIMINO D J; CROSBIE D; HOLLAND D E; MAN-SUM Y; MOORWOOD C A; QUOC VO H; SHAH H K; SINGH C J; QUOC V H; MAN-SUM YEUNG V; VO H Q; YEUNG V M

Number of Countries: 008 Number of Patents: 011

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 495575	A1	19920722	EP 92300103	A	19920107	199230	B
JP 4335731	A	19921124	JP 926972	A	19920118	199301	
US 5293375	A	19940308	US 91643208	A	19910118	199410	
			US 92930751	A	19920814		
US 5299195	A	19940329	US 91643208	A	19910118	199412	
			US 92930712	A	19920814		
US 5384767	A	19950124	US 91643208	A	19910118	199510	
			US 92898514	A	19920615		
US 5396495	A	19950307	US 91643208	A	19910118	199515	
			US 9379210	A	19930618		
US 5430726	A	19950704	US 91643208	A	19910118	199532	
			US 92939086	A	19920902		
EP 495575	B1	19970806	EP 92300103	A	19920107	199736	

DE 69221338	E	19970911	DE 621338	A	19920107	199742
			EP 92300103	A	19920107	
KR 245903	B1	20000302	KR 92634	A	19920117	200122
JP 3340457	B2	20021105	JP 926972	A	19920118	200275

Priority Applications (No Type Date): US 91643208 A 19910118; US 92930751 A 19920814; US 92930712 A 19920814; US 92898514 A 19920615; US 9379210 A 19930618; US 92939086 A 19920902
Cited Patents: 01Jnl.Ref; EP 222669; US 4817080
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 495575	A1	E	77	H04L-012/26	
Designated States (Regional): DE FR GB IT NL					
JP 4335731	A		61	H04L-012/28	
US 5293375	A		81	H04J-003/26	Div ex application US 91643208
US 5299195	A		83	H04J-003/26	Div ex application US 91643208
US 5384767	A		82	H04L-001/14	Div ex application US 91643208
US 5396495	A		60	H04J-003/26	Cont of application US 91643208
US 5430726	A		84	H04J-003/26	Div ex application US 91643208
EP 495575	B1	E	28	H04L-012/26	
Designated States (Regional): DE FR GB IT NL					
DE 69221338	E			H04L-012/26	Based on patent EP 495575
KR 245903	B1			H04L-012/28	
JP 3340457	B2		60	H04L-012/46	Previous Publ. patent JP 4335731

Abstract (Basic): EP 495575 A
The repeater interface controller that connects segments of a bus **tree** local area network utilises a distributed architecture that includes two types of **nodes** . A central **node** performs the majority of the operations defined in the IEEE 802.3 repeater specification.
A port **node** (P1-P8) resides at the end of each of a spoke from the central **node** and is the connection between a network and a repeated segment. Each port **node** controls transmit operations upon its associated segment and arbitrates with other ports whenever there is contention during **packet** reception or collision.
ADVANTAGE - Allows repeater system to be connected with processor data bus via tri-stateable bus transceiver.
Dwg.12A/45
Title Terms: REPEATER; INTERFACE; CONTROL; BUS; **TREE** ; LOCAL; AREA; NETWORK; CONNECT; SEGMENT; LAN; UTILISE; DISTRIBUTE; ARCHITECTURE; CENTRAL; PORT; **NODE**
Derwent Class: W01
International Patent Class (Main): H04J-003/26; **H04L-001/14** ; **H04L-012/26** ; **H04L-012/28** ; **H04L-012/46**
International Patent Class (Additional): **H04L-012/44** ; **H04L-012/56**
File Segment: EPI

20/5/28 (Item 28 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008829962 **Image available**
WPI Acc No: 1991-333978/199146
XRPX Acc No: N91-255941
Packets **routing method for** packet **communication network - using geographical coordinate** identifies **for making routing decisions for each** packet
Patent Assignee: METRICOM INC (METR-N)
Inventor: BARAN P; FLAMMER G H; KALKWARF R L
Number of Countries: 005 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 455959	A	19911113	EP 91104042	A	19910315	199146	B
US 5115433	A	19920519	US 87133720	A	19871216	199223	
			US 89383273	A	19890718		
			US 90513364	A	19900420		
EP 455959	A3	19940316	EP 91104042	A	19910315	199520	

EP 455959	B1	19990519	EP 91104042	A	19910315	199924
DE 69131240	E	19990624	DE 631240	A	19910315	199931
			EP 91104042	A	19910315	

Priority Applications (No Type Date): US 90513364 A 19900420; US 87133720 A 19871216; US 89383273 A 19890718
Cited Patents: NoSR.Pub; 00 6.Jnl.Re; 00 US0471
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 455959	A		126		
Designated States (Regional): DE FR GB IT					
US 5115433	A		10	H04J-003/26	Cont of application US 87133720 CIP of application US 89383273 CIP of patent US 4939726
EP 455959	B1	E		H04L-012/56	
Designated States (Regional): DE FR GB IT					
DE 69131240	E			H04L-012/56	Based on patent EP 455959

Abstract (Basic): EP 455959 A

Each **node** in a network is uniquely **identified** by absolute geographical coordinates or by a code indicating absolute location in an external coordinate-based reference system (**node** coordinates). Such coordinates or the equivalent are used as part of a **packet identifier** for each **packet** generated for use in making routing decisions.

The **node** coordinates of a local **node** and its neighbouring **nodes** and the **packet** coordinates are used at each **node** through which a **packet** is routed for determining a desired forwarding route of a data **packet** . The routing maybe prioritised according to preselected **criteria** , pref. achieving max. forward progress using the lease amt. of power.

ADVANTAGE - Requires no routing **directory** or table to perform data routing. (126pp Dwg.No.2/4)

Title Terms: **PACKET** ; ROUTE; METHOD; **PACKET** ; COMMUNICATE; NETWORK; GEOGRAPHICAL; COORDINATE; **IDENTIFY** ; ROUTE; DECIDE; **PACKET**
Derwent Class: W01
International Patent Class (Main): H04J-003/26; **H04L-012/56**
International Patent Class (Additional): **H04L-012/56**
File Segment: EPI

20/5/29 (Item 29 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008808405 **Image available**
WPI Acc No: 1991-312417/199143
XRPX Acc No: N91-239461

Parity protection in parallel computer system - incorporates block parity protection in file data blocks **enabling** data blocks **to be placed anywhere on disk array**

Patent Assignee: IBM CORP (IBMC); INT BUSINESS MACHINES CORP (IBMC)
Inventor: FREY A; MOSTELLER R C; FREY A H
Number of Countries: 004 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 453194	A	19911023	EP 91303255	A	19910412	199143	B
US 5130992	A	19920714	US 90510283	A	19900416	199231	
EP 453194	A3	19921104	EP 91303255	A	19910412	199342	
EP 453194	B1	19950816	EP 91303255	A	19910412	199537	
DE 69112110	E	19950921	DE 612110	A	19910412	199543	
			EP 91303255	A	19910412		

Priority Applications (No Type Date): US 90510283 A 19900416
Cited Patents: NoSR.Pub; EP 278317; EP 294287; US 4722085; US 4761785
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 453194	A				

Designated States (Regional): DE FR GB
US 5130992 A 8 G06F-011/10
EP 453194 B1 E 10 G06F-011/10
Designated States (Regional): DE FR GB
DE 69112110 E G06F-011/10 Based on patent EP 453194

Abstract (Basic): EP 453194 A

In a multi- **node** , parallel data processing network, each **node** has a data store. File **data blocks** are distributed across an equivalent number of **nodes** . Each of the file **data blocks** are stored in a data store at a physical location selected from any within an area of the data store reserved for file **data blocks** .

Data bits in corresponding bit positions in each of the file **data blocks** are exclusive OR`d to produce a parity block. The parity block is stored in a data store in the **node** .

USE/ADVANTAGE - In parallel computing systems where files are distributed across the system. **Data block** can be placed anywhere on array of disk files. (5pp Dwg.No.1,2/7)

Title Terms: PARITY; PROTECT; PARALLEL; COMPUTER; SYSTEM; INCORPORATE; BLOCK; PARITY; PROTECT; FILE; DATA; BLOCK; ENABLE; DATA; BLOCK; PLACE; DISC; ARRAY
Derwent Class: T01
International Patent Class (Main): **G06F-011/10**
File Segment: EPI

20/5/30 (Item 30 from file: 350)
DIALOG(R)File 350:Derwent WPIX

007842679
WPI Acc No: 1989-107791/198915
XRPX Acc No: N89-082221
Coupling node **for asynchronous data network - uses self routing,** sorting **units for digital coupling fields in banyan** tree **structure**
Patent Assignee: SIEMENS AG (SIEI)
Inventor: HORN M; LOBJINSKI M; REPPEKUS A
Number of Countries: 007 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 310759	A	19890412	EP 88111356	A	19880714	198915	B
JP 1109939	A	19890426	JP 88248920	A	19880929	198923	
US 4905224	A	19900227	US 88257680	A	19880922	199015	
EP 310759	B1	19930616	EP 88111356	A	19880714	199324	
DE 3881813	G	19930722	DE 3881813	A	19880714	199330	
			EP 88111356	A	19880714		
CA 1324205	C	19931109	CA 578640	A	19880928	199351	

Priority Applications (No Type Date): DE 3733068 A 19870930
Cited Patents: 1.Jnl.Ref; A3...9041; No-SR.Pub; WO 8404015
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 310759	A	G	10		
	Designated States (Regional): DE FR GB SE				
EP 310759	B1	G	11	H04L-012/56	
	Designated States (Regional): DE FR GB SE				
DE 3881813	G			H04L-012/56	Based on patent EP 310759
CA 1324205	C			H04L-012/56	

Abstract (Basic): EP 310759 A

The **sorting** unit, for a coupling mode with a number of digital coupling fields handling speed asynchronous data **packets** , is divided into a distorbution stage with on rows and a correction stage with n-1 rows. The digital coupling fields are formed as self-nuting **sorting** units, with multi-stage switching through via 2m-1 beta element rows for each a beta elements, where 2m is the number of inputs or outputs of the **sorting** unit and m is a power of 2.

Pref. the beta element has a storage function for holding the first

bit of a data **packet** and a **packet identification** function for **identifying** the beginning and end of each data **packet** .

USE - Integrated service digital network.

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Title Terms: COUPLE; **NODE** ; ASYNCHRONOUS; DATA; NETWORK; SELF; ROUTE; **SORT** ; UNIT; DIGITAL; COUPLE; FIELD; **TREE** ; STRUCTURE

Derwent Class: W01

International Patent Class (Main): **H04L-012/56**

International Patent Class (Additional): H04J-003/26; **H04L-011/20** ; H04Q-003/68; H04Q-011/04

File Segment: EPI

20/5/31 (Item 31 from file: 350)

007079821

WPI Acc No: 1987-079818/198711

XRPX Acc No: N87-060357

Interconnection of cyclic broadcast networks - uses topological store and forward protocol dropping packets **at drop listed** trees

Patent Assignee: BELL COMMUNICATIONS RES (BELL-N); BELL COMMUNIC RES (BELL-N)

Inventor: SINCOSKIE D; SINCOSKIE W D

Number of Countries: 013 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 8701543	A	19870312	WO 86US1206	A	19860530	198711	B
EP 233898	A	19870902	EP 86904496	A	19860530	198735	
JP 62502303	W	19870903	JP 86503591	A	19860530	198741	
US 4706080	A	19871110	US 85769555	A	19850826	198747	
CA 1254984	A	19890530				198926	
EP 233898	B1	19920729	EP 86904496	A	19860530	199231	
			WO 86US1206	A	19860530		
DE 3686254	G	19920903	DE 3686254	A	19860530	199237	
			EP 86904496	A	19860530		
			WO 86US1206	A	19860530		

Priority Applications (No Type Date): US 85769555 A 19850826

Cited Patents: 2.Jnl.Ref; GB 2149625

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8701543	A	E	29		
Designated States (National): JP					
Designated States (Regional): AT BE CH DE FR GB IT LU NL SE					
EP 233898	A	E			
Designated States (Regional): DE FR GB					
US 4706080	A		14		
EP 233898	B1	E	16	H04L-012/46	Based on patent WO 8701543
Designated States (Regional): DE FR GB					
DE 3686254	G			H04L-012/46	Based on patent EP 233898
					Based on patent WO 8701543

Abstract (Basic): WO 8701543 A

The method involves transmitting data **packets** over a system including a number of networks interconnected by gateways that implement drop list processing, a set of spanning **trees** are selected for the system. An **identifier** is then conveyed with a **packet** indicating one of the **trees** . The **identifier** is used at each gateway to determine the routing. An acknowledgement **packet** may be returned over the selected **tree** .

Each gateway may be configured with drop lists for the **trees** , and at each gateway, the **source** address, destination address and the spanning **tree identifier** are determined, the **source** address being inserted into the drop list. The **packet** is dropped if the **tree** is not processed at the gateway or the destination address is in the drop list.

USE - Interconnecting. Local area networks.
1/11
Title Terms: INTERCONNECT; CYCLIC; BROADCAST; NETWORK; TOPOLOGICAL; STORAGE ; FORWARD; PROTOCOL; DROP; **PACKET** ; DROP; LIST; **TREE**
Derwent Class: W01
International Patent Class (Main): **H04L-012/46**
International Patent Class (Additional): G08B-005/00; H04J-003/24; **H04L-011/16** ; **H04L-012/56** ; H04Q-003/42; H04Q-005/00
File Segment: EPI

20/5/32 (Item 32 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004592064
WPI Acc No: 1986-095408/198615
XRPX Acc No: N86-069932
Data transmission station for branch **data network - provides status signals relating to monitored devices within next lower order plane of data network**
Patent Assignee: SIEMENS AG (SIEI)
Inventor: HERKERT H
Number of Countries: 015 Number of Patents: 009
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 177019	A	19860409				198615	B
DE 3436441	A	19860410				198616	
AU 8548255	A	19860410				198622	
NO 8503921	A	19860428				198624	
JP 61090549	A	19860508	JP 85220505	A	19851004	198625	
BR 8504886	A	19860722				198636	
US 4801934	A	19890131	US 85784110	A	19851004	198907	
EP 177019	B1	19920513	EP 85112422	A	19851001	199220	
DE 3586028	G	19920617	DE 3586028	A	19851001	199226	
			EP 85112422	A	19851001		

Priority Applications (No Type Date): DE 3436441 A 19841004
Cited Patents: A3...8848; DE 2823836; DE 2827418; DE 3110590; EP 177018; EP 46937; No-SR.Pub; US 3693155
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 177019	A	G	16		
Designated States (Regional): AT BE CH DE FR GB IT LI NL SE					
EP 177019	B1	G	8	H04B-003/46	
Designated States (Regional): AT BE CH DE FR GB IT LI NL SE					
DE 3586028	G			H04B-003/46	Based on patent EP 177019

Abstract (Basic): EP 177019 B
The transmission station incorporates monitoring of the operating condition of the stations coupled to it from a next lowest order network plane. The transmitted data is accompanied by the station address and divided into two **data block** sets respectively containing the status signals and the data provided by the data **sources** .
The status signals to be transmitted pref. contain a given number of sub quantities, with data reduction effected by suppression of those which contain information corresponding to reference information.
USE - For centralised fault detection in **branch** structure data network. (16pp Dwg.No.1/2)
Title Terms: DATA; TRANSMISSION; STATION; **BRANCH** ; DATA; NETWORK; STATUS; SIGNAL; RELATED; MONITOR; DEVICE; LOWER; ORDER; PLANE; DATA; NETWORK
Derwent Class: W01; W05
International Patent Class (Main): H04B-003/46
International Patent Class (Additional): **G06F-011/30** ; G08B-025/00; G08C-025/00; H04B-017/00; **H04L-001/08** ; **H04L-011/00** ; **H04L-012/26** ; H04Q-009/00
File Segment: EPI

20/5/33 **(Item 33 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

004592063
WPI Acc No: 1986-095407/198615
XRPX Acc No: N86-069931
Data transmission method incorporating data reduction - transmitting only data sub-quantities containing new information and incorporating
Patent Assignee: SIEMENS AG (SIEI)
Inventor: HERKERT H; TIMMERMANN U
Number of Countries: 015 Number of Patents: 009
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 177018	A	19860409				198615 B
AU 8548254	A	19860410				198622
NO 8503922	A	19860428				198624
JP 61090548	A	19860508	JP 85220504	A	19851004	198625
DE 3436435	A	19860626	DE 3436435	A	19841004	198627
BR 8504885	A	19860722				198636
US 4698628	A	19871006	US 85784111	A	19851004	198742
EP 177018	B1	19920513	EP 85112421	A	19851001	199220
DE 3586027	G	19920617	DE 3586027	A	19851001	199226
			EP 85112421	A	19851001	

Priority Applications (No Type Date): DE 3436435 A 19841004
Cited Patents: A3...8849; DE 2823836; DE 2827418; DE 2832311; DE 3110590; EP 177019; EP 46937; No-SR.Pub; US 3693155
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 177018	A	G	20		
	Designated States (Regional): AT BE CH DE FR GB IT LI NL SE				
EP 177018	B1	G	13	H04B-003/46	
	Designated States (Regional): AT BE CH DE FR GB IT LI NL SE				
DE 3586027	G			H04B-003/46	Based on patent EP 177018

Abstract (Basic): EP 177018 B
Data reduction is effected by dividing incoming data into sub quantities and suppressing those which have an information content corresponding to a given reference content. The remaining **data blocks** transmitted incorporate the address of the **source** station, a data control signal and the data sub quantities which do not correspond to the reference data content.
The data control signal indicates the number and order of the following data sub quantities.
USE - For signal collection system for fault or interference detection. (20pp Dwg.No.0/7
Title Terms: DATA; TRANSMISSION; METHOD; INCORPORATE; DATA; REDUCE; TRANSMIT; DATA; SUB; QUANTITY; CONTAIN; NEW; INFORMATION; INCORPORATE
Derwent Class: W01; W05
International Patent Class (Main): H04B-003/46
International Patent Class (Additional): G08C-025/00; H03M-007/30; H04B-001/66; H04B-017/00; **H04L-001/08** ; **H04L-011/00** ; **H04L-012/26** ; **H04L-025/17** ; H04Q-009/00
File Segment: EPI

20/5/34 **(Item 34 from file: 347)**
DIALOG(R)File 347:JAPIO

07208837 **Image available**
PROGRAMMABLE **PACKET** PROCESSOR WITH FLOW RESOLUTION LOGIC

PUB. NO.: 2002-077269 [JP 2002077269 A]
PUBLISHED: March 15, 2002 (20020315)
INVENTOR(s): CATHEY JIM

MICHELS TIMOTHY S
APPLICANT(s): ALCATEL INTERNETWORKING (PE) INC
APPL. NO.: 2001-154078 [JP 20011154078]
FILED: May 23, 2001 (20010523)
PRIORITY: 00 206617 [US 2000206617], US (United States of America), May 24, 2000 (20000524)
00 206996 [US 2000206996], US (United States of America), May 24, 2000 (20000524)
00 220335 [US 2000220335], US (United States of America), July 24, 2000 (20000724)
INTL CLASS: **H04L-012/56**

ABSTRACT
PROBLEM TO BE SOLVED: To provide a programmable network processor having efficient **classification** logic of an incoming **packet** .
SOLUTION: A programmable **packet** switching controller has a **packet** buffer, a pattern-matching module, a programmable **packet classification** engine and an application engine. The **packet** buffer stores inbound **packets** the includes a **header** data extractor extracting **header** data from the inbound **packets** and storing the extracted **header** data in a **header** data cache. The **header** data extractor generates a **header** data cache **index** and supplies it to the **packet classification** engine, so that the extracted **header** data are retrieved. The **packet classification** engine has the **classification** logic of a decision **tree** base for **classifying** the **packets** . A **leaf** indicates the **packet** .

20/5/35 (Item 35 from file: 347)
DIALOG(R)File 347:JAPIO

06044080 **Image available**
ADDRESS RETRIEVAL DEVICE

PUB. NO.: 10-327180 [JP 10327180 A]
PUBLISHED: December 08, 1998 (19981208)
INVENTOR(s): KUWABARA MASAYUKI
KOJIMA OSAMU
APPLICANT(s): FUJIKURA LTD [000518] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 09-135605 [JP 97135605]
FILED: May 26, 1997 (19970526)
INTL CLASS: [6] **H04L-012/46** ; **H04L-012/28** ; **G06F-013/00** ; **H04L-012/66** ; **H04L-012/56**
JAPIO CLASS: 44.3 (COMMUNICATION -- Telegraphy); 45.2 (INFORMATION PROCESSING -- Memory Units)

ABSTRACT
PROBLEM TO BE SOLVED: To allow the device to retrieve a network in which a destination of a received **packet** is in existence at a high speed among interconnected networks.
SOLUTION: Network addresses are **classified** into 'large (L), small (S) and inclusive (I)', and an address table of a **tree** structure where three branches are connected to each node is generated based on the **classification** . Then a bit length of a mask of a prescribed entry A in the address table is selected to be ma, let the value of high-order ma-bits of a network address of the entry A be a(ma), and the value of the high-order ma-bits of a destination address C be c(ma), then a router retrieves addresses according to the following **rules** ; **rule** (1) I, S are not retrieved in the case of a(ma)<c(ma), **rule** (2) L, S are not retrieved in the case of a(ma)=c(ma), and **rule** (3) L, I are not retrieved in the case of a(ma)>c(ma).